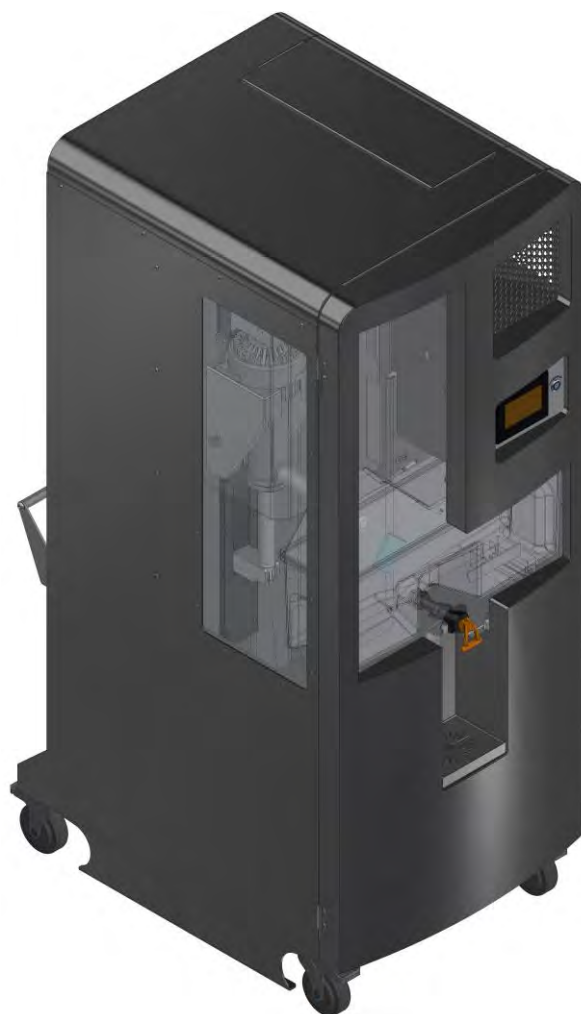




2nd Generation Multi-Fruit Juicer

Operator Manual



June 2018



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Operator Manual

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Important Safety Information

You can help prevent personal injury and/or property damage.

**Please read this manual carefully before operating the Multi-Fruit Juicer.
DO NOT attempt any operation until you understand exactly how the machine functions.**

If uncertainty remains after studying this manual, **please contact John Bean Technologies Corporation.**

We're here to help. With proper handling, the JBT Multi-Fruit Juicer will provide safe, efficient and convenient service for years to come.



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Revision History

Manual Code	Rev.	Date	Change History
FNS-0010-060	A	10/13/17	Initial release
FNS-0010-060	B	3/5/18	Update Page 38, Juicing Components
FNS-0010-060	C	6/19/18	Update of Operating Instructions and all assembly and electrical drawings

Safety Labels

The safety labels shown below appear on the Juice Extractor. Safety labels provide essential instructions on how to avoid possible hazards.

Please, for your safety: FOLLOW THOSE INSTRUCTIONS AT ALL TIMES.

Should the Juicer safety labels become damaged or unreadable, contact JBT Corporation for replacement labels.



Safety Instructions

Carefully review the following safety instructions.

Make them a habit when using the JBT Corporation Multi-Fruit Juicer.

1. If Juicer continues to run when any access cover is open, the interlock switch is defective. **Turn Juicer off immediately.** Call for service.
2. Prevent unauthorized access to Juicer by locking all covers with supplied key.
3. Prevent unauthorized operation of Juicer by placing electrical plug inside cart door.
4. **NEVER** attempt to make any safety device inoperative.
5. **NEVER** operate or perform maintenance or repair work on the Juicer when taking any kind of drug or sedative, when under the influence of alcohol, or when fatigued.
6. **ALWAYS** check adjustment of all nuts, bolts, and screws after installation, repair, or periodic maintenance.
7. **NEVER** attempt to operate or transport machine if the caster wheels are damaged, do not roll freely, or if front and rear brakes do not lock.



Specifications

Technical Specifications

Fruit size:	2 1/2" to 3 3/4" diameter (6.5 cm to 9.5 cm)
Oranges — FL:	125 to 50 count
Oranges — CA:	138 to 48 count
Grapefruit — FL:	56 to 48 count
Hopper capacity:	80 lb. (2 cartons) (36 kg)
Reservoir capacity:	3.5 gal. (1 carton) (13.2 liters)
Waste container capacity:	40 lb. of peel (2 cartons) (18 kg)
Speed:	25 fruit/minute
	(40 to 60 gallons/hour)
	(152 to 228 liters/hour)

Electrical Specifications

115V, 60 Hz Single Phase 20 AMP Service on a dedicated circuit
10 GA. wire — up to 200 ft. from main breaker panel
or
220 VAC, 50 Hz / 60Hz Single Phase 16 AMP Service
10 GA. wire — up to 200 ft. from main breaker panel

Shipping Specifications

Height: 65.4"
Width: 26"
Depth: 35"
Weight: 850 lbs

Patents

U.S. Patents - #4905586 and #4922814
and Patents Pending

General Information

The JBT Corporation Juicer is designed to provide years of dependable service. It uses a unique patented design to extract every available amount of juice from the fruit with the least amount of peel oil. The peel is completely separated from the juice and juice sacs before being compressed and strained.

The machine will juice all types of citrus — oranges, grapefruit, lemons, limes, tangerines, etc. — without changing or adjusting parts. In fact, different varieties and sizes of fruit can be juiced to create various fruit juice blends.

Clean-up is simple, requiring disassembly of only five parts. All waste material — peel, membranes, and seeds — is collected in a disposable garbage bag for easy removal and disposal.

The Juice Extractor is solidly built using heavy duty components in all assemblies, including the drive. It is simple to operate and uses a minimal number of parts.

ALWAYS follow cleaning and maintenance schedules in this manual to prevent equipment damage.

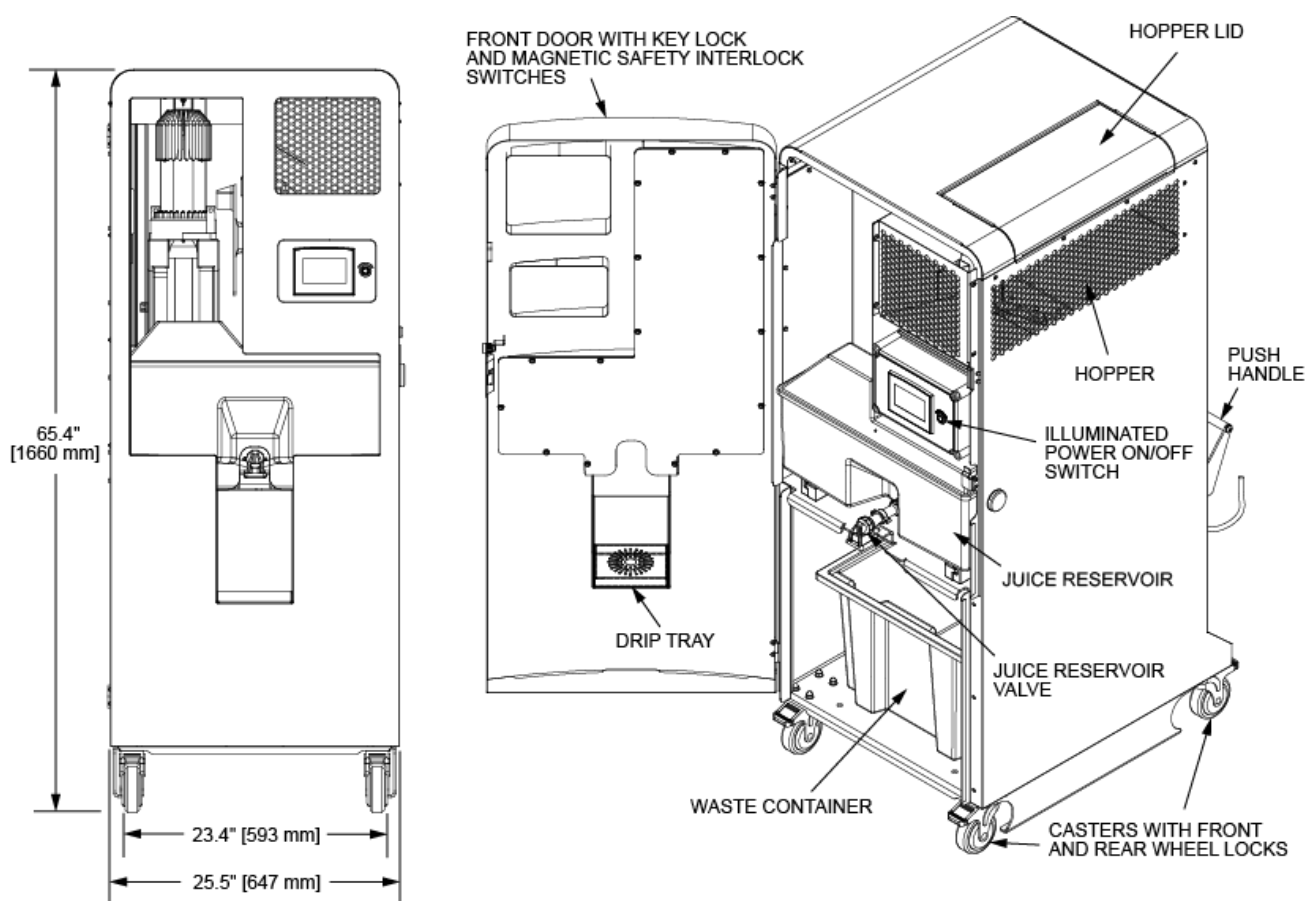


Figure 1. 2nd Generation Multi-Fruit Juicer

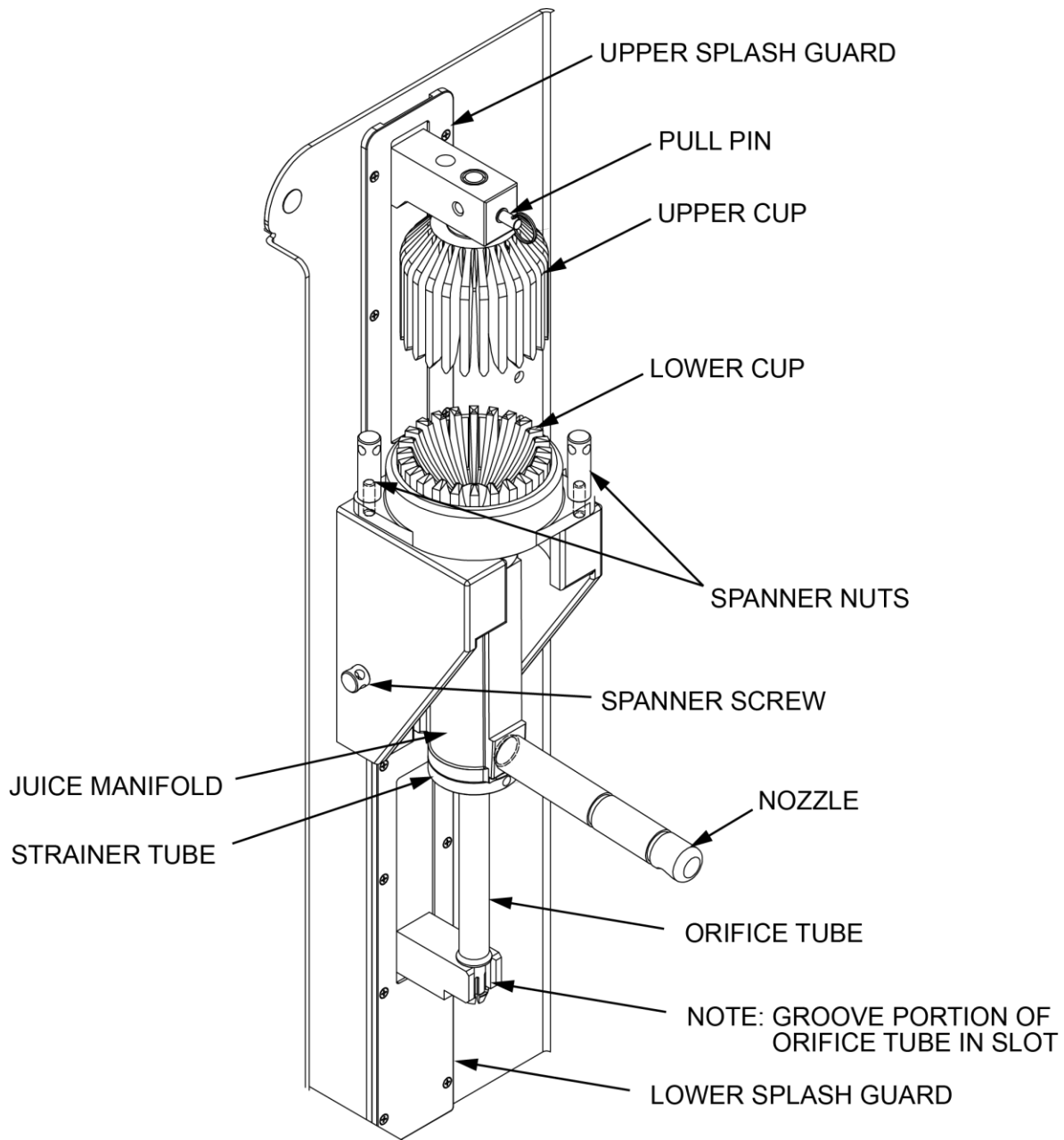


Figure 2. Juicing Components Assembly

Operating Instructions

Equipment Check

Before plugging the Multi-Fruit Juicer into an electrical outlet, the following steps must be performed:

1. **Locate the Multi-Fruit Juicer on a level surface.**

This will prevent fruit feed problems.

CAUTION: WHEN MOVING JUICER, ALWAYS TRANSPORT ON LEVEL SURFACE. USE RAMPS IF NECESSARY. AVOID LEDGES, IRREGULAR FLOORS OR DRAIN INDENTIONS.

2. **Lock casters.**
To lock, push down on caster with foot. To unlock, push again with foot.
3. **Check waste container.**
Open cart door to verify that waste container is in place.
4. **Check juicing components.**
With front door open, remove clear splash shield and check that juicing components are installed and securely fastened.
5. Make sure juice nozzle is firmly seated. If not present, wet o-ring before installing.
6. Make sure juice reservoir is firmly in place.
7. Close and lock front door.
8. **Make sure juice reservoir valve is in closed position.**
9. **Check the hopper for foreign objects.**
Remove any foreign objects found in the hopper.
10. **Make sure floor area around Juicer is clean and free of obstructions and water.**
Wear appropriate non-slip footwear when water is necessary.



Juicing

1. **Turn on Juicer.**
Push the ON-OFF button. Light on button turns on.
2. **Feed fruit into the Juicer.**
 - a. Open the hopper door.
 - b. Dump carton of fruit into hopper. If necessary, place fruit individually into hopper.
 - c. Close the hopper door.

CAUTION: TO AVOID PHYSICAL INJURY, USE CAUTION WHEN LIFTING HEAVY WEIGHTS OVERHEAD. IF NECESSARY, DIVIDE FRUIT AND PLACE IN CARTON LID AND DUMP INDIVIDUALLY OR ASK FOR ASSISTANCE WHEN LIFTING OVERHEAD.

3. **Initiate juicing.**
Press the START button.
4. **Stop juicing.**
Press the red STOP button to stop machine immediately.
Press the yellow STOP IN CLEANING POSITION button to have the machine stop at the point where the cups are farthest apart.
5. **Stir juice.**
Use stirrer handle located on the side of the machine to stir juice in reservoir before filling containers.
6. **Fill containers.**
Place container under juice reservoir valve. Open valve by pulling lever until container is full.
7. **Clean Juicer.**
If finished juicing, clean Juicer as soon as possible.
(See Page 14 for cleaning instructions.)

Setting Options

Settings can only be accessed while the machine is on, but not running.

Press the SETTINGS button located below and to the left of the START button.

Settings allow the selection of the animation seen while the machine is juicing (**Figure 3**).

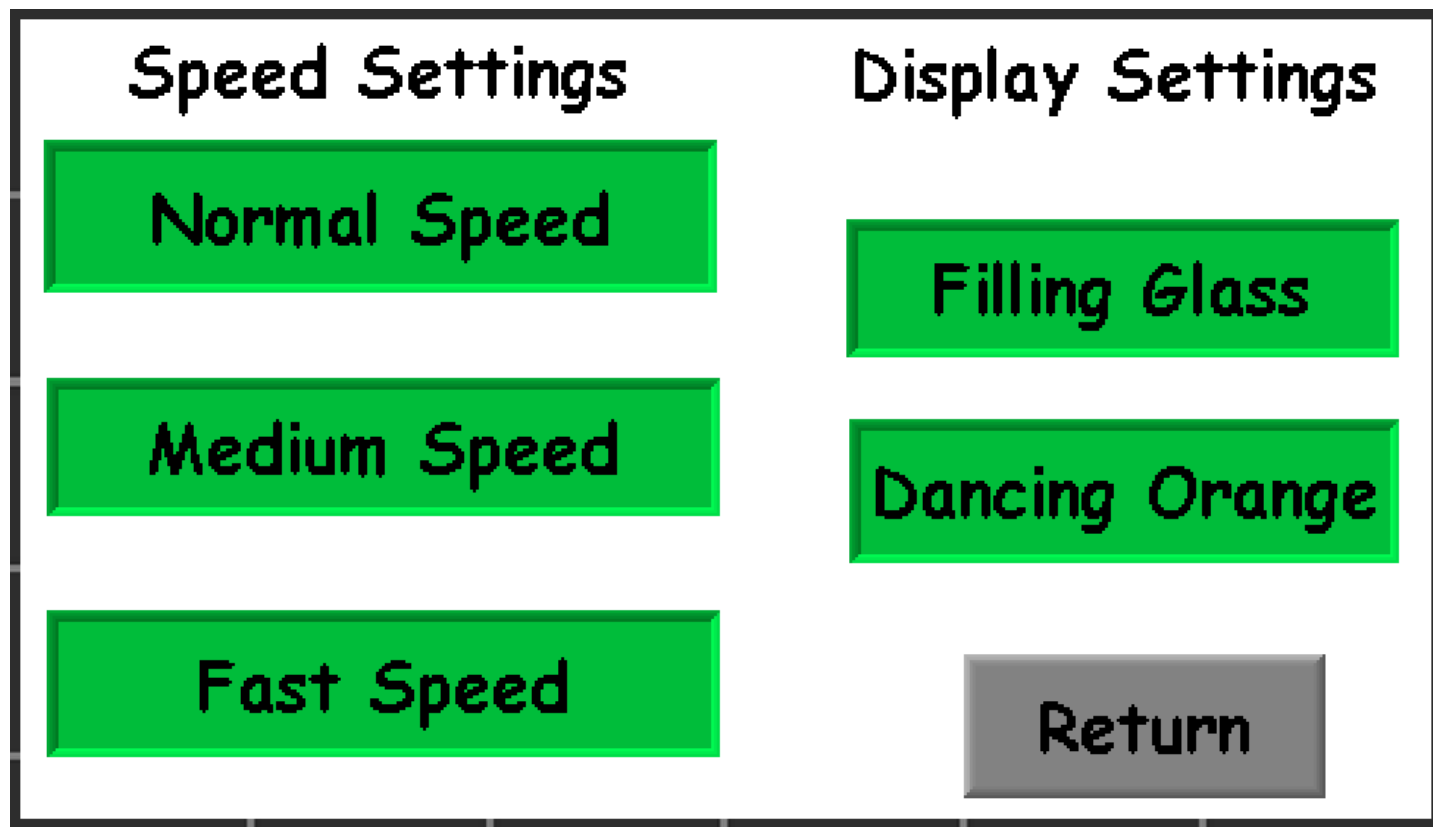


Figure 3. Display Setting Options on Settings Screen

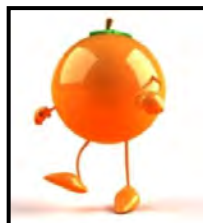
Speed Settings – Controls the speed of the juicer. The machine will default to Normal Speed every time the juicer is powered off. If juicer stalls while processing fruit, use a slower setting.

Display Settings – Selection of the animation that will play while the machine is operating:

Filling Glass



Dancing Orange



Status Screen

The Status Screen can only be accessed while the machine is on, but not running.

Press the STATUS button located below the START button.

The Status Screen provides information on how many cycles the machine has ever run, how many cycles since last service, the date of last service (Month / Day / Year format), and the phone number to call for service.

Service Screen

The Service Screen (**Figure 4**) is password protected and only available to authorized individuals.

The Service Screen can only be accessed while the machine is on, but not running.

Press the SERVICE button located below and to the right of the START button.

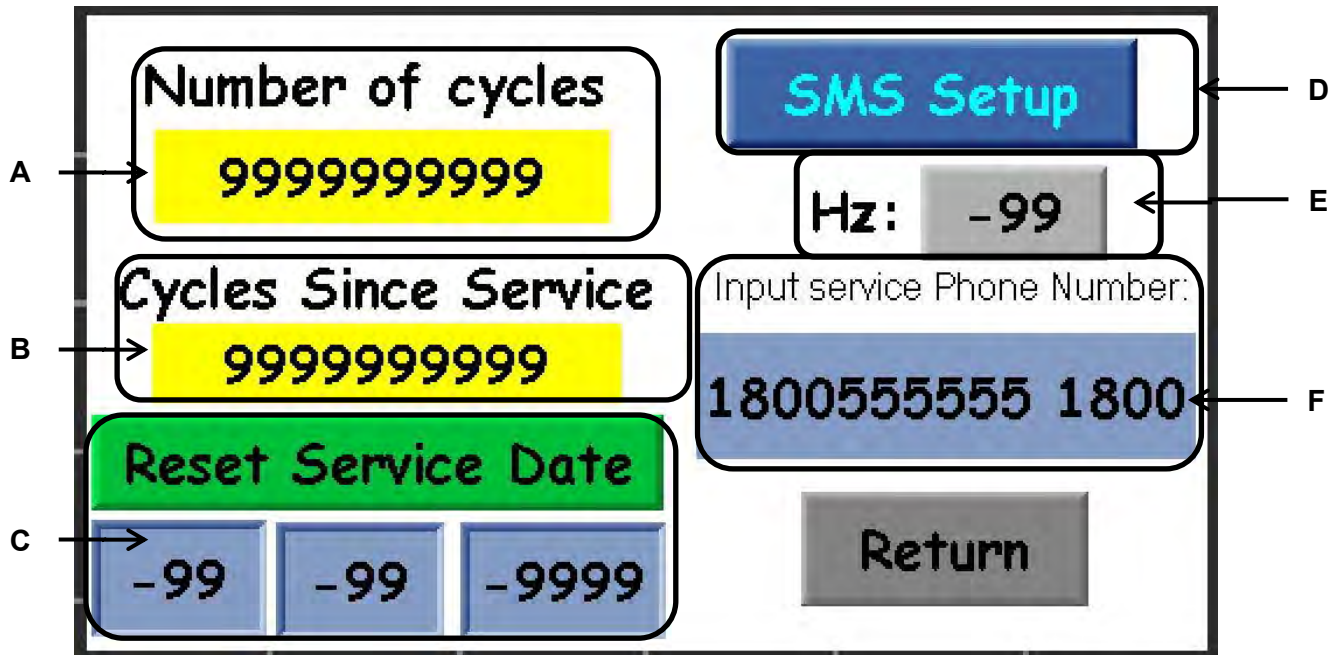


Figure 4. Service Screen

- A. This counter indicates the total number of cycles in the machines lifetime (cannot be reset).
- B. This counter indicates how many cycles have been run since the last time the service date was changed (pressing the Reset Service Date automatically zeros this counter).
- C. Indicates the last time the machine was serviced. To update this date, press the green Reset Service Date button. Date format is: Month / Day / Year.
- D. Link to the screen to set up and test the SMS function.
- E. Service feature used for diagnostic and testing only. When the machine is on the Normal Speed option from the setting screen, this allows manually selecting a speed. The value is in Hertz and in the range from 15 to 90. This feature is strictly for service and automatically defaults to the standard 60 Hertz each time the machine is turned off.
- F. Phone number the customer should use to call for service. To change, simply click the numbers and enter the appropriate phone number. This phone number then appears on the "Status" screen for the customer.

SMS Setup Screen

The SMS Setup Screen (**Figure 5**) is not password protected and is only accessible from the Service Screen which is available for use by authorized individuals only.

The SMS Setup Screen can only be accessed while the machine is on, but not running.

From the Service Screen, press the SMS SETUP button located in the top right corner to access SMS Setup Screen.

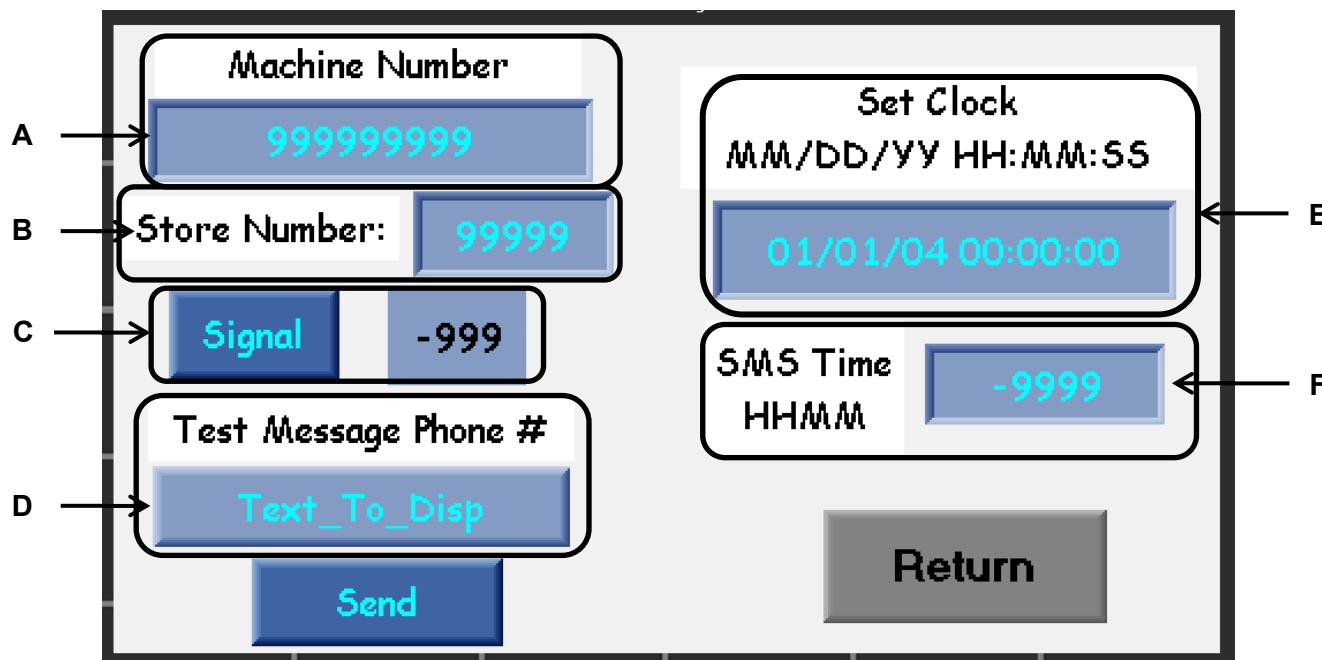


Figure 5. SMS Setup Screen

- A. Indicates the machine serial number which is typically located on the bottom rear corner of the unit. Value is changeable by pressing the numbers themselves. Note, only numbers are supported at this time, there are no options to input letters.
- B. An optional entry for store number for locations that desire it. Currently limited to a five digit number. Letters are not supported in this field
- C. For units equipped with a modem, this value will show the strength of the signal. The range is between 0 and 30. Any value of 12 or below may prevent a message from being sent.
- D. Option to test the message service. Input a phone number into the field (use 10 digit phone number, including the 1). Press the blue SEND button below and a message will be sent to the phone number that was entered. The message will indicate test and includes the machine number, store number, and machines date and time.
- E. The current date and time according to the machine. This can be changed by clicking on the numbers. As depicted the date format is Month/Day/Year while the time format is in Hours: Minutes: Seconds. Time is indicated in 24 hour format.
- F. This is a feature is currently not used.



Operator Do's and Don'ts

Do's	Don'ts
Unplug juicer before opening juicing component door	DO NOT open juicing component door before unplugging
Stop juicer when cups are in most open position	DO NOT stop juicer when cups are in closed position
Use light water spray when rinsing juicer	DO NOT use high pressure or volume water when rinsing juicer
When hopper cleaning, use spray bottle and damp towel	When hopper cleaning, DO NOT use chemical dosage and water system
Use spray bottle with cleaner on main frame casting in juicing components area	DO NOT use chemical dosage and water system to clean main casting (can result in mechanical damage)
Rinse sanitizer off juicer five minutes after applying	DO NOT leave sanitizer on juicer without rinsing (can damage aluminum)
Use fruit within size range (2-1/2" to 3-7/8" diameter)	DO NOT use oversized fruit
Use fruit within size range (2-1/2" to 3-7/8" diameter)	DO NOT use small fruit (can result in double feed and cause cups to break)
Inspect and test safety switches and door locks weekly	DO NOT use juicer if safety switches are not work properly
Install juicing components using spanner tool; tighten spanner nuts and screw from top to bottom	DO NOT hand tighten spanner nuts and screw (can result in major equipment damage)
Install orifice tube into slot on lower arm (see Figure 7 on Page 19)	DO NOT install orifice tube on top of lower arm slot (see Figure 7 on Page 19)
Inspect cutter daily. Replace if damaged; adjust and tighten screw	If cutter is damaged, loose or dull, juice quality and yield can be impacted
Mix juice and pulp slowly to reduce foam in reservoir	DO NOT mix juice quickly in reservoir (can result in foam and off flavor)

Cleaning Instructions

ALWAYS follow cleaning and maintenance schedules in this manual to prevent equipment damage.

Clean Juicer as soon as possible after juicing. Use a soft towel or sponge to wipe equipment parts. **DO NOT** use abrasive pads such as steel wool.

The recommended cleaner is JBT Corporation brand CorKlean. CorKlean is a low-foaming alkaline equipment cleaner. It is safe on aluminum, 100% water soluble and free rinsing. CorKlean has been especially formulated for cleaning food processing equipment and is USDA accepted. Follow instructions on cleaner label for dilution.

1. Turn-off Juicer using the **STOP IN CLEANING POSITION** button to ensure maximum separation between upper and lower cups.
2. **DISCONNECT ELECTRICAL PLUG.**



3. Pull Juicer to clean-up area, if one is available.



4. Brush all loose peel into waste container or bag.
5. Empty and rinse waste container.



6. Remove juicing components (see Figure 6).

- a. Cups should be separated. (Juicer should have been turned off using the STOP IN CLEANING POSITION button, see Step 1.)
- b. Remove splatter shield by sliding upwards off mounting screws.

CAUTION: DO NOT PLACE HANDS OR FINGERS BETWEEN CUPS.

- c. Grasp upper cup and pull out pin just above it. Place upper cup in waste container.
- d. Remove lower cup by removing spanner nuts on either side of lower cup. (Spanner wrench is provided to loosen/tighten spanner nuts). Place lower cup in waste container.

CAUTION: CUTTER AND KNIVES ARE SHARP.

- e. Install red protective cap on cutter. (Red protective cap is provided.)
- f. Grasp juice manifold and orifice tube firmly. Remove entire juicing components assembly.
- g. Grasp orifice tube and pull out of strainer tube.
- h. Remove strainer tube from inside juice manifold by turning tube counter-clockwise and sliding out. (Spanner wrench is provided to loosen/tighten strainer tube.) Place juicing components into waste container.

7. Prepare cleaning solution.

JBT Corporation brand CorKlean is recommended, see Page 14.
Read the product label. Follow the manufacturer's mixing directions and safety precautions.

8. Immerse all components in cleaning solution.

Use the blunt end of plastic rod provided to displace any fruit material lodged in the bore of the orifice tube.

Use pointed end of plastic rod to displace any fruit material lodged in cup fingers.

9. Scrub components.

Use a brush, towel, or sponge. **DO NOT** use abrasive pads such as steel wool. Thoroughly rinse with clean water, then thoroughly rinse with sanitizer solution. Follow the manufacturer's mixing directions and safety precautions.

10. For best results, soak strainer tube overnight.

After soaking overnight, rinse the strainer tube thoroughly before using. Check that all strainer tube holes are clean. Clean strainer tube with a hard spray from a hose while moving orifice tube back and forth in strainer tube. Rinse thoroughly with sanitizer solution. Allow to air dry.

Cleaning Instructions (continued)

11. If possible, hose down juicing area and cover.

If location prohibits using a hose to clean juicing area and cover, ensure waste container is in place. Wash down the exposed juicing area and cover with a sponge or spray applicator using the recommended cleaning solution. Cover may be rinsed in place or removed by lifting it off the hinges. Allow to stand for two minutes before rinsing thoroughly with water.

12. Re-assemble juicing components.

Start by re-assembling strainer tube into juice manifold. Tighten with spanner wrench. Insert orifice tube into bottom of strainer tube. Mount juice manifold assembly onto locating pins with orifice tube notch engaging lower drive. Tighten spanner screw with spanner wrench. Remove red protective cap from cutter. Install lower cup and tighten spanner nuts with spanner wrench. Install upper cup by slipping pin into stem hole. Install splatter shield.

Refer to Figure 6.

13. Verify that orifice tube is properly installed (Figure 7).

14. Remove wax build-up as needed.

Cups, hopper and other parts may acquire a build-up of wax over time.

- a. Soak cups for five minutes in an ammonia cleaning solution.**
Rinse thoroughly with sanitizer solution.
- b. Wipe hopper and other parts with a cloth soaked in ammonia cleaning solution.**

15. Remove orange discoloration as needed.

Equipment may exhibit some build-up or orange coloration over time. CorKlean solution should remove this. Wipe with a cloth soaked in any pine based cleaner to remove discoloration from plastic covers.

Rinse thoroughly with sanitizer solution.

16. Clean juice reservoir faucet.

Daily cleaning is crucial to the performance, maintenance and sanitation of the faucet.

Take apart handle assembly and flush with clean water, then sanitize.

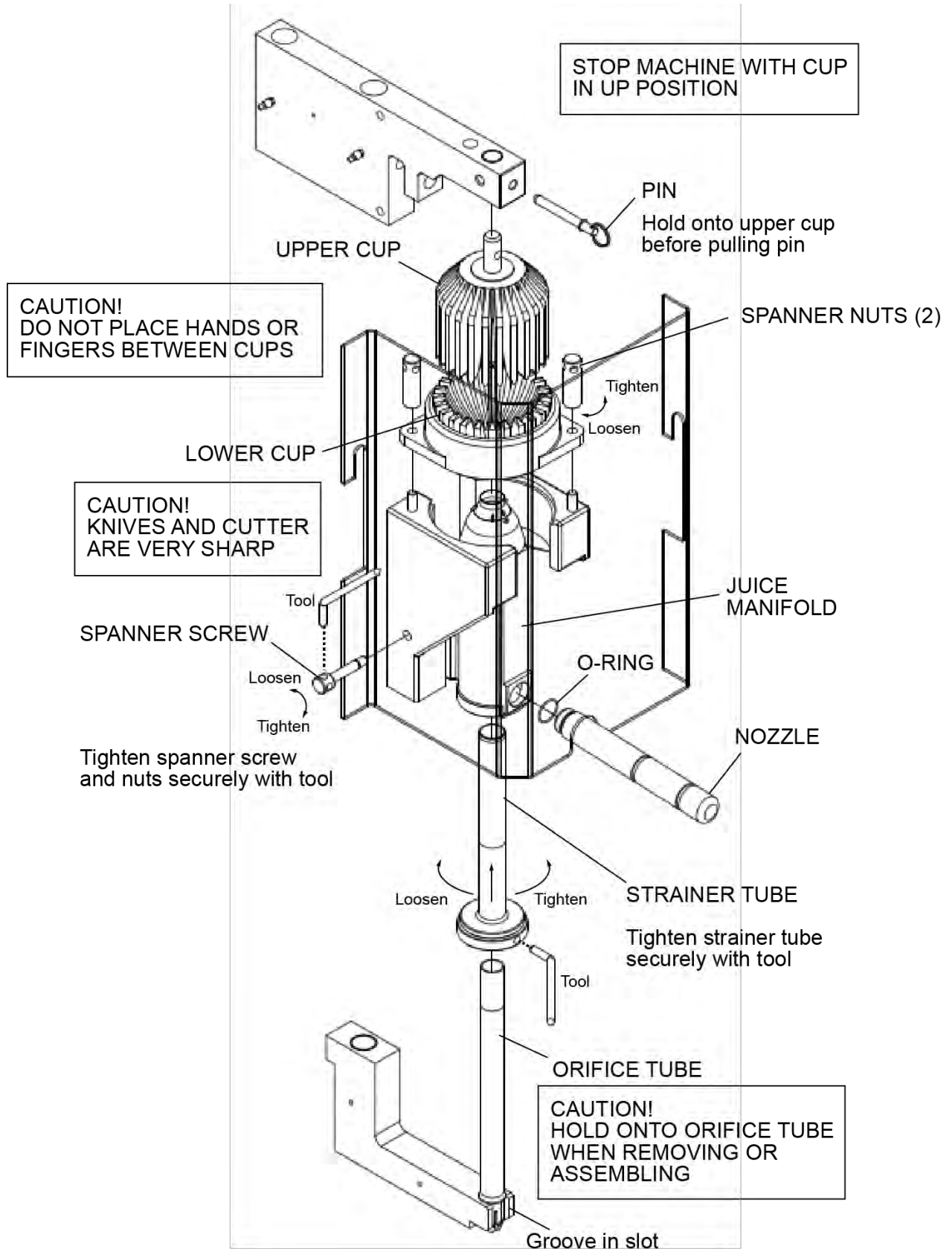


Figure 6. Removing/Replacing Juicing Components

ORIFICE TUBE INSTALLATION



CORRECT



GROOVE OF ORIFICE TUBE
INSTALLED IN LOWER ARM SLOT



INCORRECT



ORIFICE TUBE INSTALLED
ON TOP OF LOWER ARM SLOT

RESULTS OF IMPROPER ORIFICE TUBE INSTALLATION



DAMAGED ORIFICE TUBE
AND CUTTER



ORIFICE TUBE BROKEN OFF
INSIDE UPPER CUP



ORIFICE TUBE DOES NOT
CLEAN STRAINER TUBE
(EFFECTS JUICE YIELD
AND QUALITY)

Figure 7. Proper Orifice Tube Installation

Maintenance

Before performing any maintenance,

DISCONNECT ELECTRICAL PLUG.



LOCK FRONT AND REAR CASTER WHEELS.

After every juice run:

1. Check cutter and knives for sharpness.

Refer to **Figure 8** to determine condition of cutter.

If dull, sharpen with a whetstone provided.

Refer to **Figure 8** to sharpen cutter.

If cutter is severely damaged or rolled over, replace cutter.

a. Cutter removal:

Disassemble juicing components (Figure 6, Page 18). Loosen set screw under front knife (make sure screw is backed out far enough to clear cutter). Cutter should lift out, if not, tap the cutter lightly from inside the juice manifold with a 1-1/4" diameter rod (hammer handle).

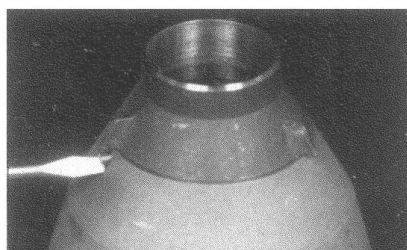
CAUTION: CUTTER AND KNIVES ARE SHARP.

Install red protective cap provided onto cutter. After red protective cap is installed, remove cutter. Handle cutter with care to avoid direct contact with sharp edge.

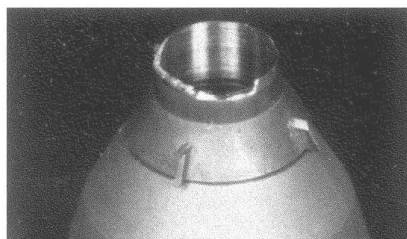
b. Cutter installation:

Align arrows on cutter and juice manifold to seat cutter. Make sure cutter is fully seated. Tighten set screw. (**DO NOT** over-tighten.)

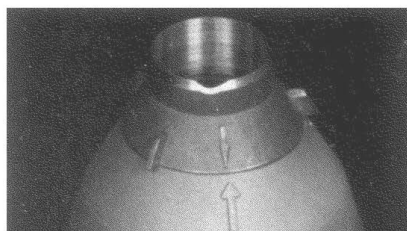




INSTALLATION OF
GOOD CUTTER



BAD CUTTER
REPLACE CUTTER



CUTTER THAT
CAN BE SHARPENED



SHARPENING CUTTER
WITH WHETSTONE



SHARPENING KNIFE
WITH WHETSTONE

Figure 8. Sharpening Cutter

Maintenance (continued)

- 2. Check orifice tube for damage.**
Refer to Figure 9.

Replace tube when:

- a. Chunks are missing from top end.
- b. Score marks $1/32$ " or deeper appear along the length of the tube.

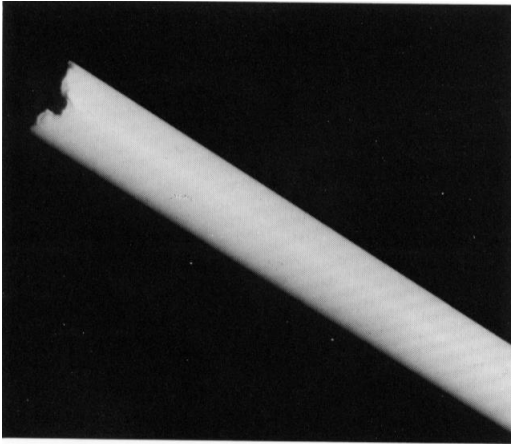


Figure 9. Severely Damaged Orifice Tube

- 3. Check for loose or missing nuts and bolts.**
 - a. Tighten or replace nuts and bolts as necessary.
 - b. **DO NOT** exceed torque ranges specified.
 - c. **ALWAYS** use JBT Corporation recommended spare parts.

Periodic Inspection

Perform the following steps every week.

1. Test all access cover interlock switches.

Juicer should stop automatically when any access cover is opened. Individually open and close the front door and hopper access door. If juicer continues to run when front door or hopper access is opened, the interlock switch is defective.

Stop the juicer and replace the defective interlock switch immediately.

See Troubleshooting Section.

2. Inspect casters for damage or wear.

Caster must roll freely and front and rear brakes must lock.

3. Check all fasteners for tightness.

Check especially on the Sprockets, Crank Arms, Fruit Lift and Hopper.

4. Check chain for tightness.

Refer to Figure 10.

Chain should have 1/4 inch maximum slack on top side. To adjust, loosen the tensioning bolt located on the chain tensioner until 1/4 inch of slack is measured.

CAUTION: DO NOT OVER TIGHTEN CHAIN.

5. Check chain and sprockets for rust.

Lubricate chain and sprockets should rust appear. JBT Select FG Spray (Non-Drip), p/n 575054, is recommended.

6. Lubricate grease fittings with JBT Select 2FG grease, p/n 575066.

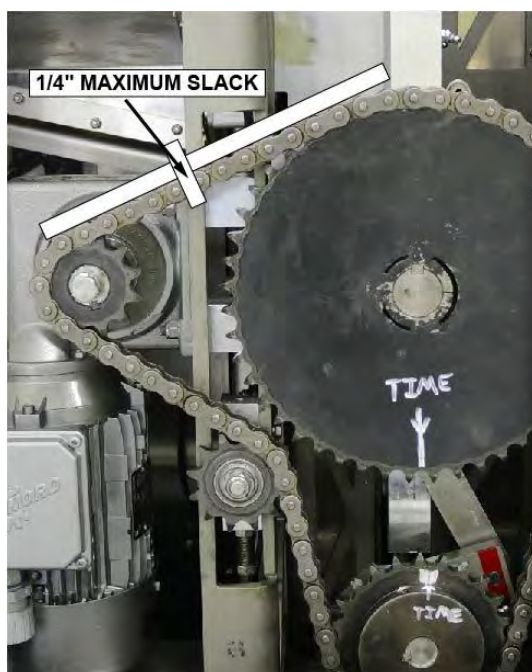


Figure 10. Checking Chain Slack

7. Check gear motor.

If Juicer has been laid on its side for any reason (i.e., during shipping), or if there is any evidence of oil leak, check oil level and add oil, if necessary. **Refer To Figure 11.**

Use FUCHS FM220 GEAR OIL FG only.

8. Check hopper.

To remove hopper, fruit lift (upper cup drive) must be in down position. Remove two spanner screws using spanner wrench. Remove hopper.

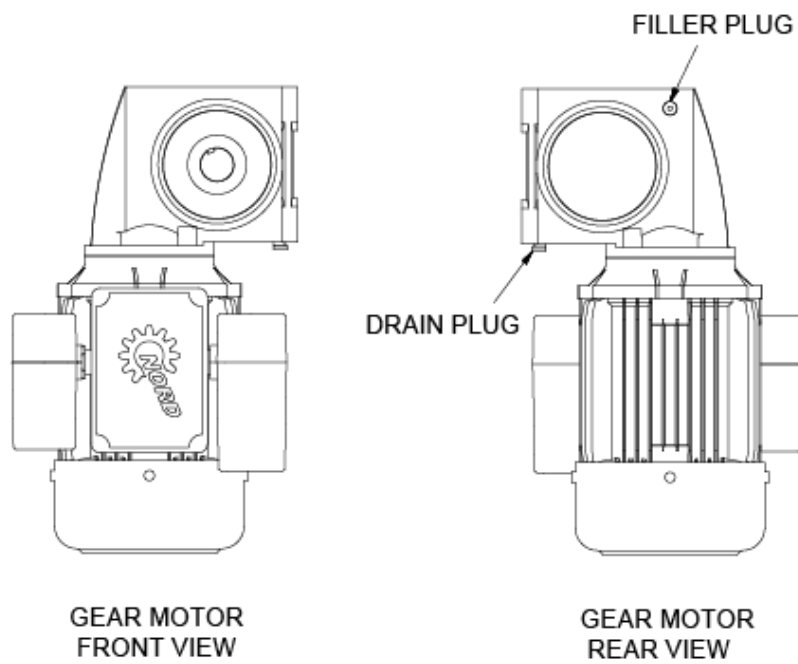


Figure 11. Gear Motor

Troubleshooting Table

Condition	Corrective Action
Juicer will not run	<ul style="list-style-type: none"> • Reset breaker • Power cord plugged in? • Doors and covers closed and locked?
Orifice tube stuck in strainer tube	<ul style="list-style-type: none"> • Orifice tube installed incorrectly • Excess pulp in strainer, thoroughly clean out pulp from strainer • Top of orifice tube damaged • Strainer tube damaged or bent
Peel and seeds in juice	<ul style="list-style-type: none"> • Cutter missing or loose • Strainer tube not tight in manifold • Top of strainer tube damaged
Foam in reservoir	<ul style="list-style-type: none"> • Cutter damaged • Mixing juice and pulp too fast causes air to mix in juice
Fruit bursting and waste is wet	<ul style="list-style-type: none"> • Fruit is too large (3-7/8" max) • Check for damaged fruit
Juice in waste and/or discharge is wet	<ul style="list-style-type: none"> • Check for damaged fruit • Inspect orifice tube top for damage or wear • Strainer tube holes are plugged • Fruit too large
Juice nozzle leaking juice	<ul style="list-style-type: none"> • Nozzle o-ring missing or damaged; replace o-ring
Fruit not feeding out of hopper into cup	<ul style="list-style-type: none"> • Remove wax build-up in hopper • Wipe with food grade non-stick product inside hopper
Cutter damaged and has rolled top edge	<ul style="list-style-type: none"> • Dried peel, stems stuck in upper cup cutter • Broken top edge of orifice tube wedged inside cutter • Clean out obstruction
Juicer stalls and shuts off	<ul style="list-style-type: none"> • Cutter dull • Fruit too large • Orifice tube damaged • Strainer tube needs cleaning
Juicer runs then shuts off	<ul style="list-style-type: none"> • Check door safety switches, locks and reservoir high level switch
Juice yield less than 2-1/2 gallons per case	<ul style="list-style-type: none"> • Fruit soft or too large • Orifice tube, strainer tube and/or cutter damaged; replace damaged parts
Clear plastic window of juice reservoir scratched	<ul style="list-style-type: none"> • Do not use scrub pads on any plastic parts



Troubleshooting

- **Juicer will not start**

1. **Juicer is not plugged into electrical outlet.**
2. **Building circuit breaker has tripped.**
3. **Covers are not completely closed.**

Open and close both doors, make sure the sensors are securely fastened and then ensure the doors are firmly closed.

4. **Loose wire connection.**

Check that all connections between the lid and box are secured. Then check that all wires are firmly seated in their terminals.

- **Juicer starts, but shuts off**

1. **Building circuit breaker is not properly rated.**

2. **Extension cord or wiring is too long.**

Shorten extension cord or use heavier gauge wire. (See Page 6 "Electrical Specifications")

3. **All covers not completely closed (including cart).**

Juicer may be flexing when squeezing fruit, causing switch to open. Make sure all latches are completely locked.

4. **Cords coming to the back of the electrical box are reversed.**

- a. Remove access panel on back of machine.
- b. Unplug the two small cables just below the center of the box.
- c. Switch the cables and plug them back in.

- **Juicer stalls trying to squeeze fruit**

1. **Fruit has part of stem on it.**

Turn off Juicer and unplug . Remove fruit from the Juicer and restart.

2. **Peel is too thick.**

Turn off Juicer and unplug. Remove fruit from the Juicer and restart.

3. **Juicer is operating too quickly.**

Use a lower speed setting on the settings page.

4. Turn off Juicer and unplug . Remove fruit from the Juicer and restart.

5. **Cutter is damaged.**

CAUTION: CUTTER AND KNIVES ARE SHARP.

- a. Sharpen or replace cutter as specified in Maintenance section.
- b. Install red protective cap onto cutter.
- c. After red protective cap is installed, remove cutter. Handle cutter with care to avoid contact with sharp edge.

Troubleshooting (continued)

- **Juicer runs with covers open or off**
Defective interlock switch. Replace immediately.
- **Juicer emits "squealing" sound during operation**
Lubricate grease fittings on machine.
If noise continues, rod end or bearing may be defective.

**NOTE: IF AN OPERATIONAL PROBLEM PERSISTS AFTER TROUBLESHOOTING,
CONTACT JBT SERVICE FOR ASSISTANCE.**



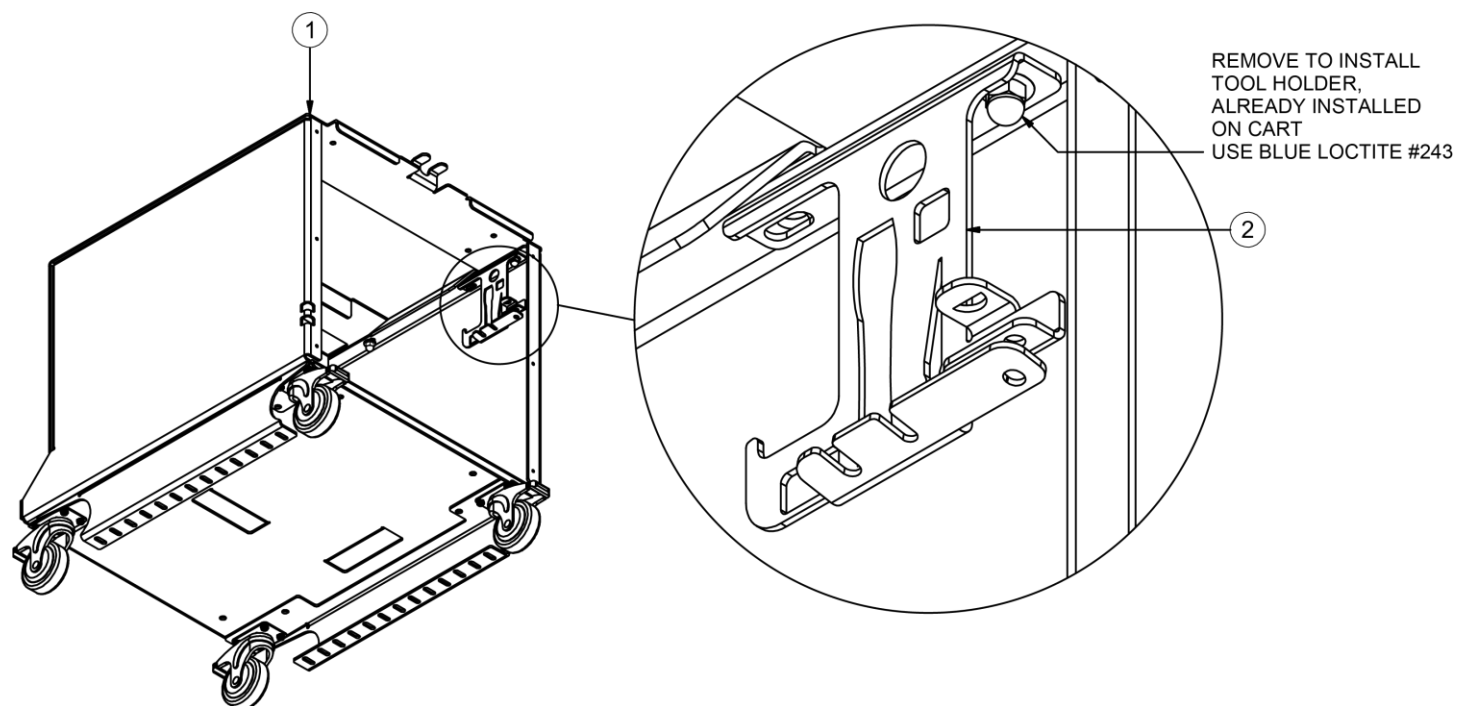
Illustrated Parts List

Assembly drawings in this chapter provide a list of part numbers for replaceable parts available for the 2nd Generation Multi-Fruit Juicer. The following parts list/drawings are provided:

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3. Center Plate	31
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1. Cart, Tool Holder Mounting

Item	Qty	Part Number	Description
1	1	06010103	Cart Assembly
2	1	06010291	Tool Holder



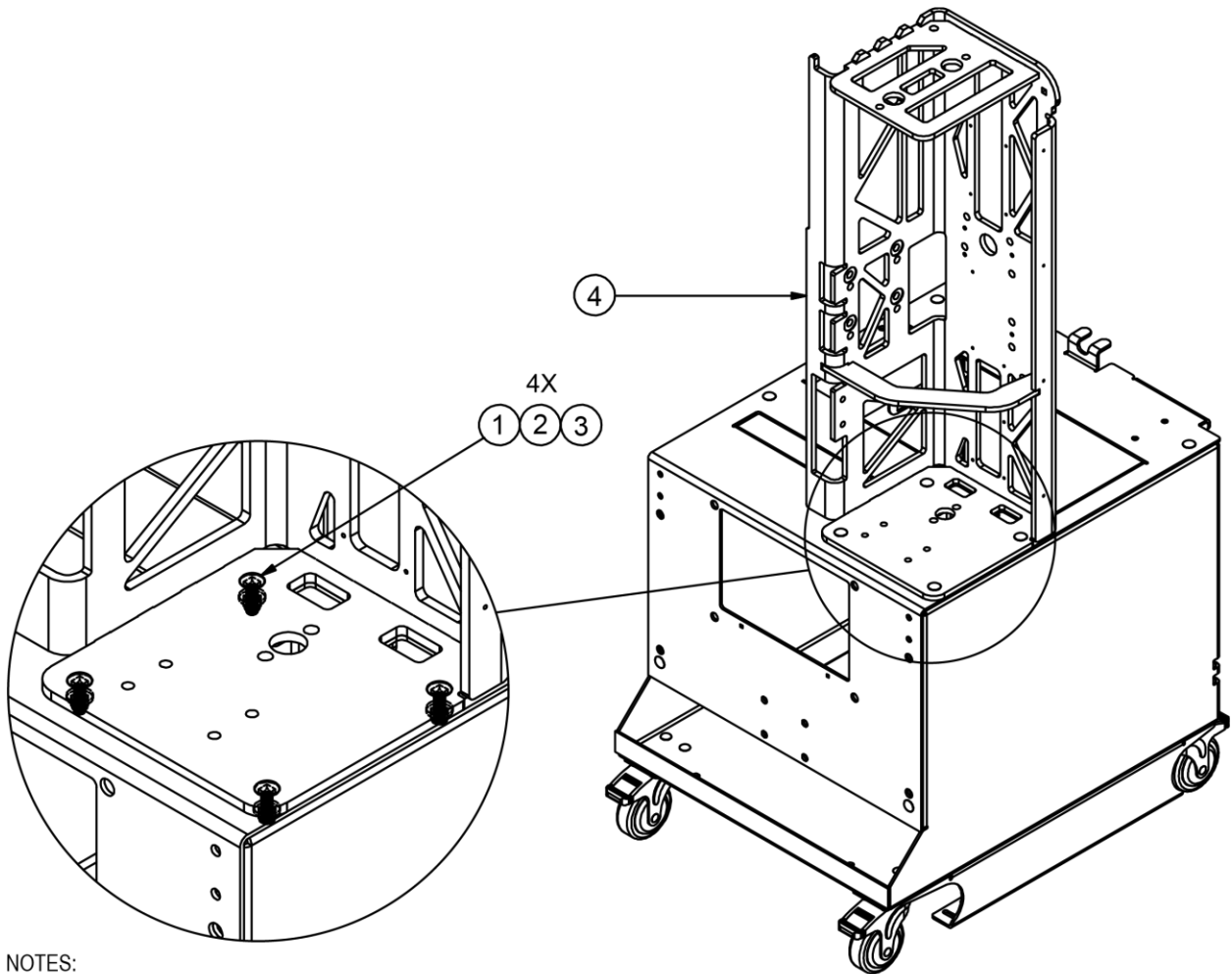
NOTES:

1. FOLLOW TORQUE AND THREAD COATING INSTRUCTIONS.
2. USE EXISTING HARDWARE TO MOUNT TOOL HOLDER.

Figure 12. Cart

2. Main Stainless Steel Center Frame

<u>Item</u>	<u>Qty</u>	<u>Part Number</u>	<u>Description</u>
1	12	004011032	Bolt, Carriage, 3/8-16 X 1-1/4" Lg, 304SS
2	9	004156074	Nut, Hex, S/L, Light, 3/18-16, 304SS
3	19	004816086	Washer, Flat, 3/8", SS
4	1	06010231	Frame, 2nd Gen MFJ, Machined



NOTES:

COAT ALL THREADS AND RECEIVING THREADS WITH A THIN LAYER OF ANTISEIZE.

Figure 13. Main Stainless Steel Center Frame

4. Cup Mounting Blocks, Lower Cup

Item	Qty	Part Number	Description
1	2	004210030	Pin, Dowel, 3/8" Diameter X 7/8" Lg, 304SS
2	4	004210044	Pin, Dowel, 1/4" Diameter X 1-1/8" Lg, SS
3	6	004415013	Screw, Shoulder, 3/8" X 5/8" Lg, 1/2" Shoulder, 18-8SS
4	1	06010227	Cup Mount, LH
5	1	06010232	Cup Mount, RH

APPLY A SMALL BEAD OF SILICON ON MATING SURFACE, 0.25" OFFSET FROM PERIMETER OF CUP MOUNT BEFORE INSTALLING TO CREATE SANITARY SEAL. WIPE EXCESS SILICON.

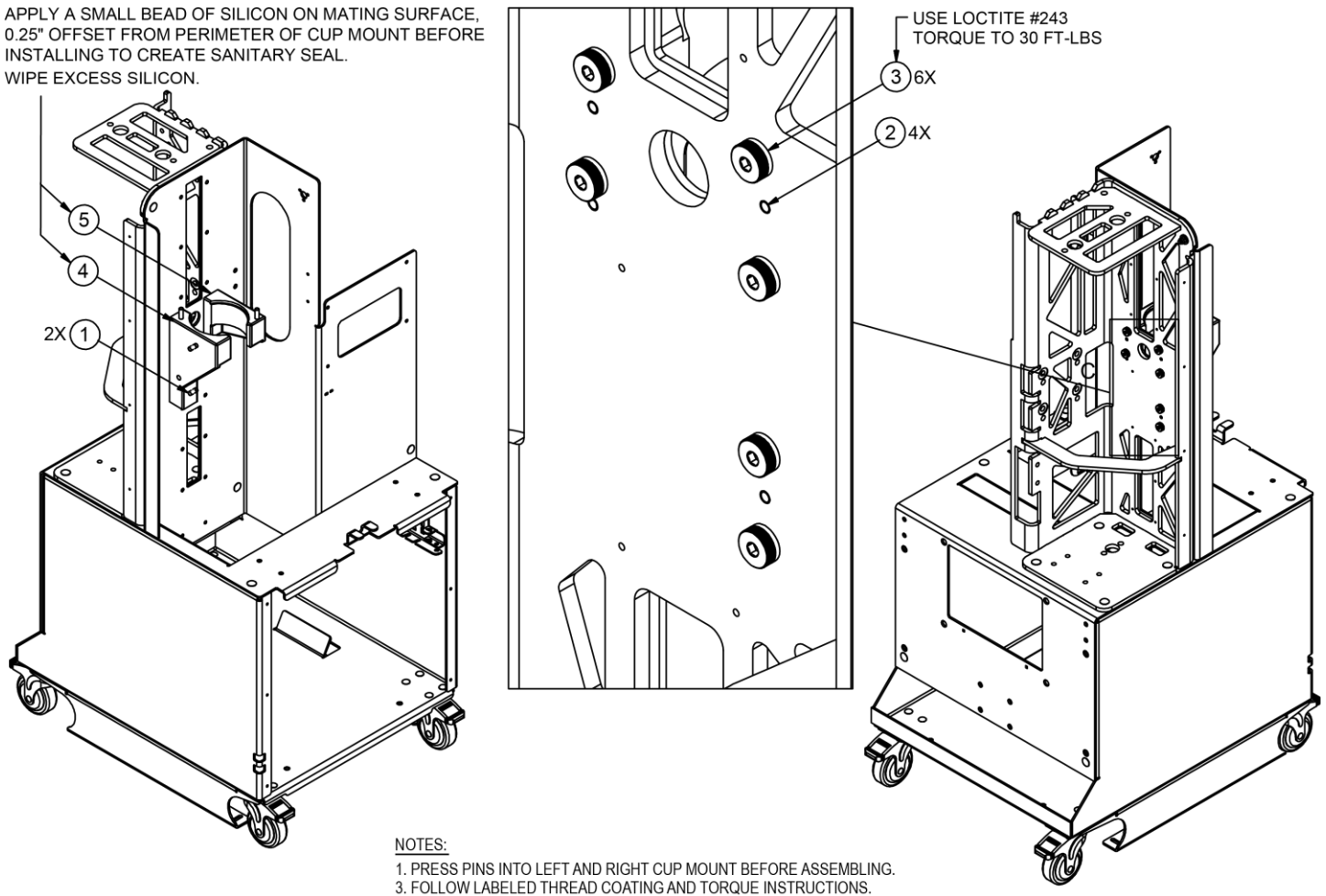
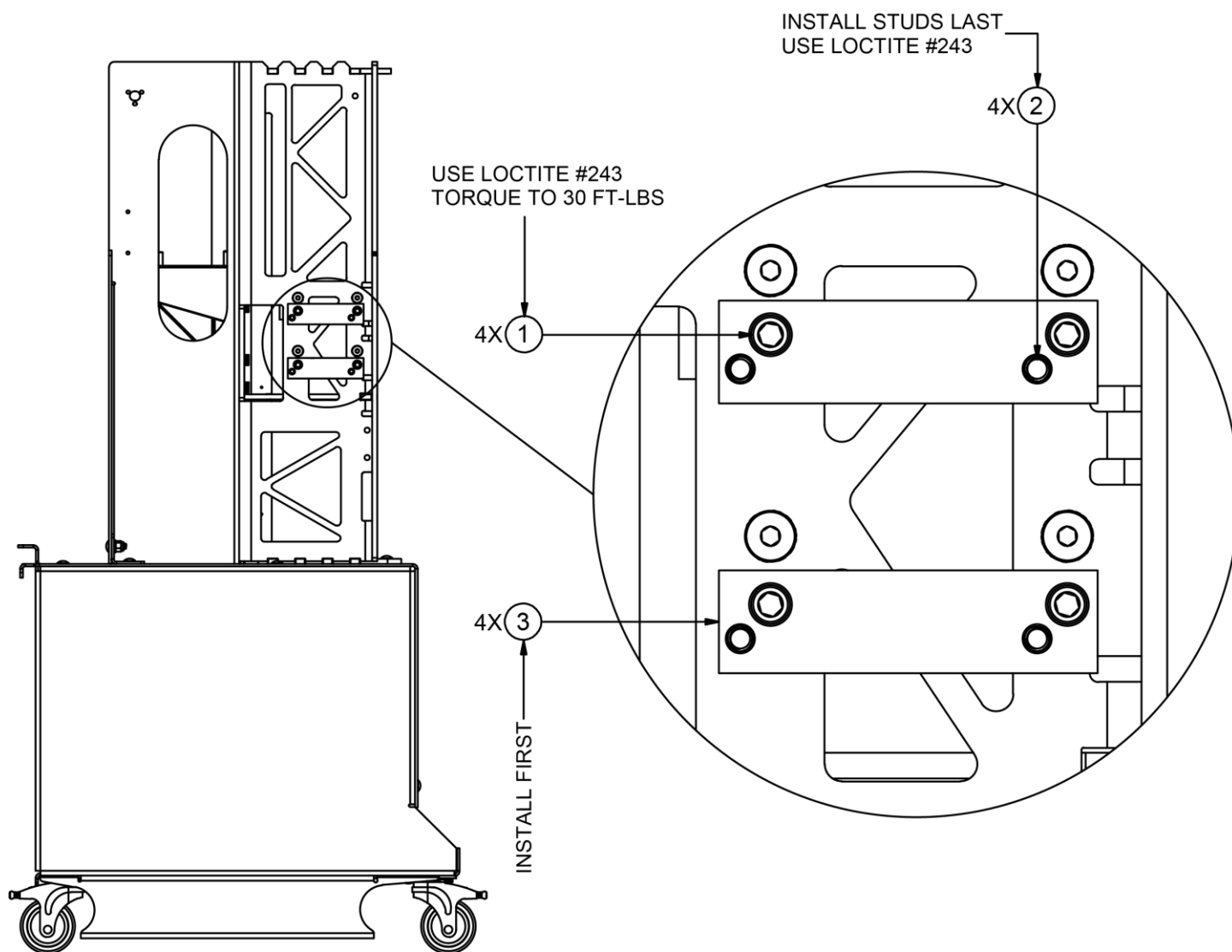


Figure 15. Cup Mounting Blocks, Lower Cup

5. Centering Drive Block

Item	Qty	Part Number	Description
1	4	004415014	Screw, Shoulder, 1/2" X 3/4" Lg, 3/8-16 Thread, 18-8SS
2	4	06010069	Spacer, Alignment Block



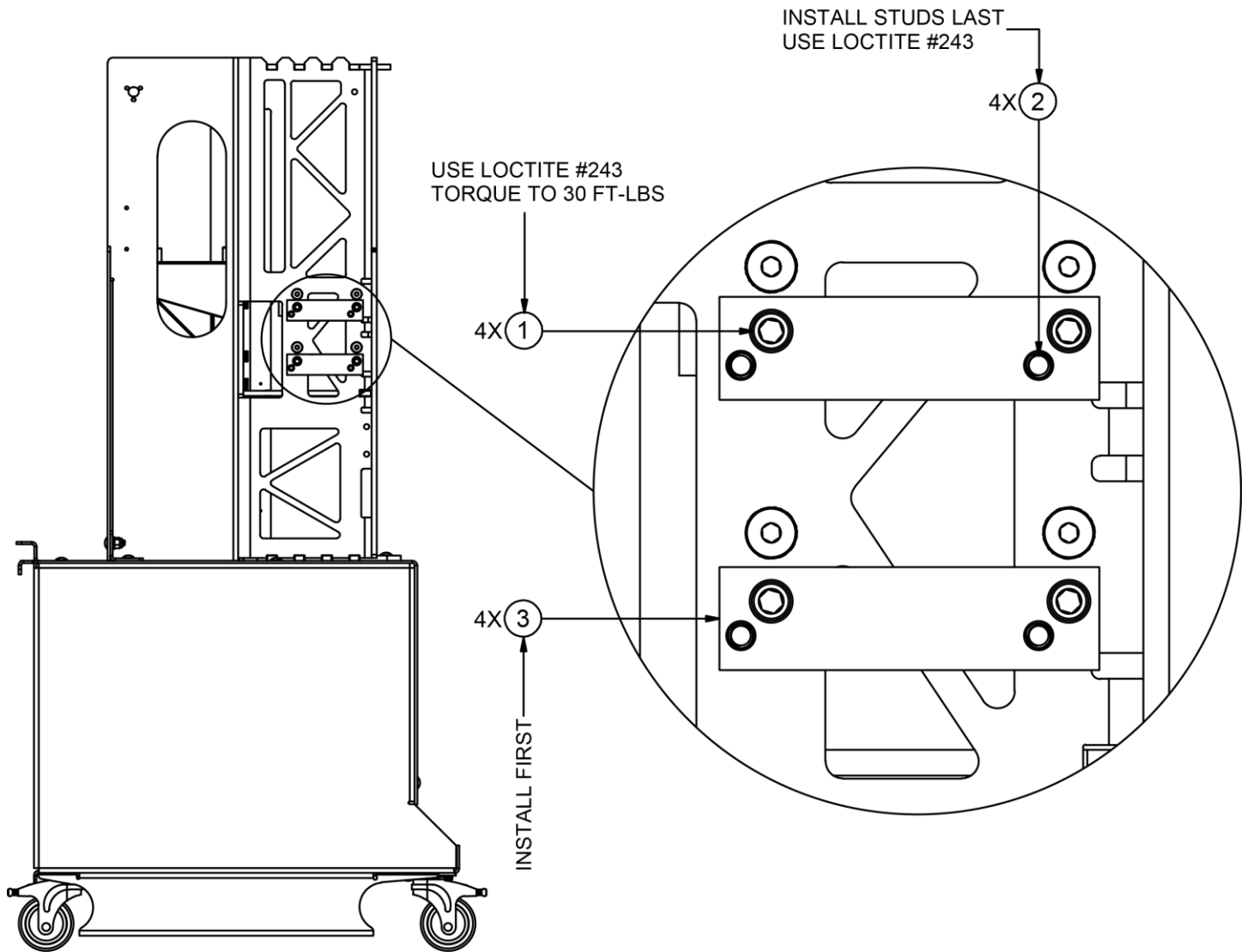
NOTES:

1. FOLLOW LABELED THREAD COATING AND TORQUE INSTRUCTIONS.
2. FOLLOW LABELED ORDER INSTRUCTIONS.

Figure 16. Centering Drive Block

6. Motor Mount Blocks

Item	Qty	Part Number	Description
1	4	004415051	Screw, Socket Head, 3/8-16 Thread, 3" Lg, 18-8SS
2	4	004701002	Stud, Fully Threaded, 3/8-16, 2-1/4" Lg, 18-8SS
3	2	06010071	Spacer, Right Angle Motor Mounting



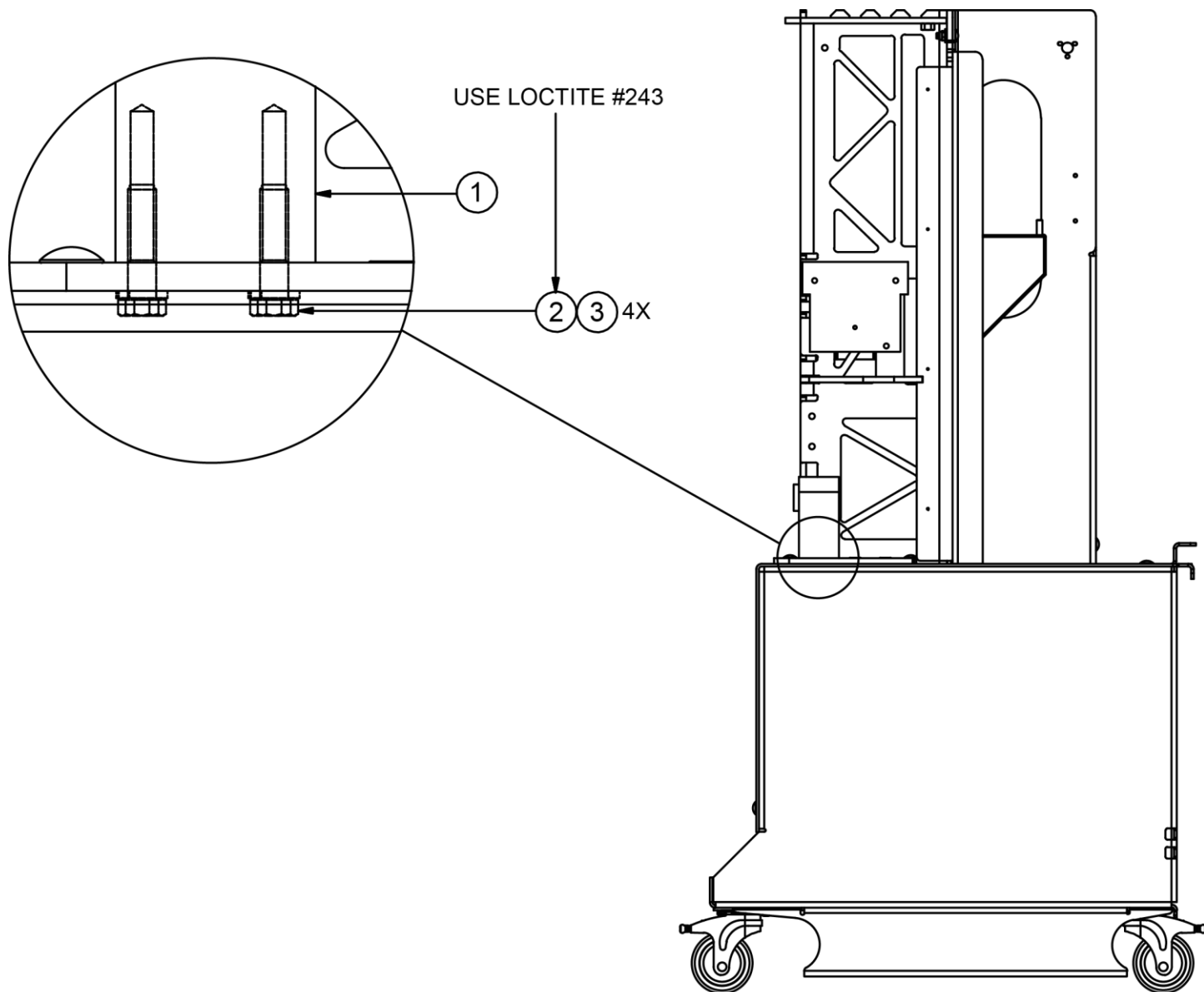
NOTES:

1. FOLLOW LABELED THREAD COATING AND TORQUE INSTRUCTIONS.
2. FOLLOW LABELED ORDER INSTRUCTIONS.

Figure 17. Motor Mount Blocks

7. Bottom Bearing Block, Orifice Tube Drive Block

Item	Qty	Part Number	Description
1	1	003030296	Bar, Flat, Aluminum, 3" X 5"
2	4	004352397	Screw, Cap, Hex, Full Thread, 3/8-16 X 1-1/2", SS
3	16	004806070	Washer, Lock, 3/8" Reg, SS



NOTES:

1. FOLLOW LABELED THREAD COATING AND TORQUE INSTRUCTIONS.

Figure 18. Bottom Bearing Block, Orifice Tube Drive Block

8. Rotating Assembly, Lower and Upper

Item	Qty	Part Number	Description
1	2	004352571	Screw, Cap, Hex, 1/2-13 X 1-1/2", SS
2	2	004355051	Screw, Cap, Hex, Socket Head, 3/8-16 X 2", S/L, Alloy
3	1	004356109	Screw, Cap, Hex, Socket Head, 3/8-16 X 1-1/4", S/L, Steel
4	1	004385057	Screw, Flat Head, Hex, 8-32 X 1/2" Lg, 304SS, Nylock, Pellet
5	9	0043541138	Screw, Cap, Hex, Socket Set Cup Point, 3/8-16
6	4	004816100	Washer, Plain N, 1/2", SS
7	5	004816120	Washer, Plain N, 5/8", SS
8	1	005576061	Key, Square, 1/4" X 3/4" Lg, 416SS
9	1	005576286	Key, Square, 3/8" X 1-1/4" Lg, 304SS
10	1	007143009	Counter Sunk Disc, Magnetic, 3/4" OD
11	1	06000011	Arm, Orifice Tube Drive
12	1	06000058	Crank, Orifice Tube Drive
13	1	06010241	Arm, Modified Upper Cup
14	1	06010242	Crank, Upper Cup Drive
15	1	06010258	Screw, Upper Cup Crank, LH
16	1	06010323	Upper Arm Bolt

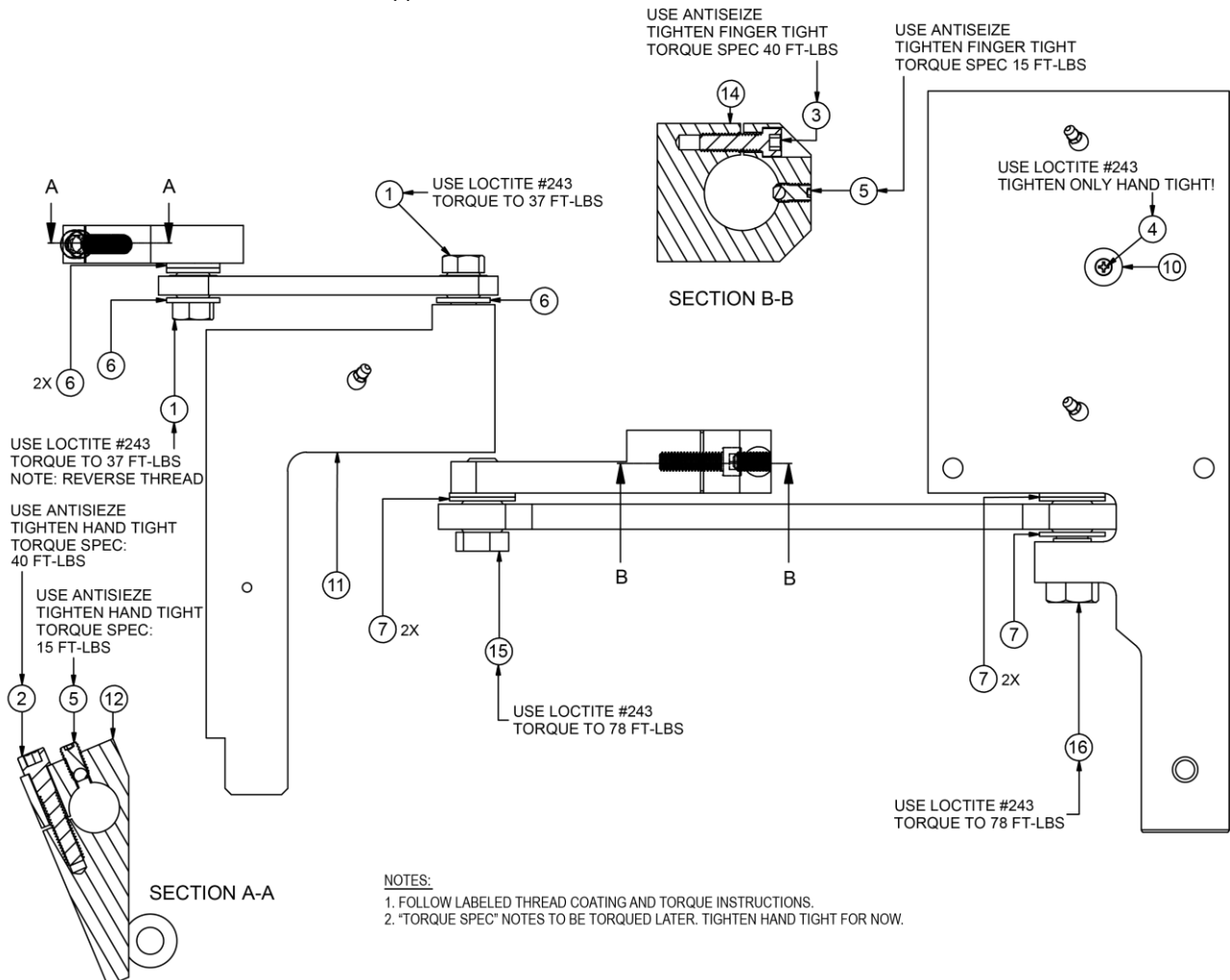
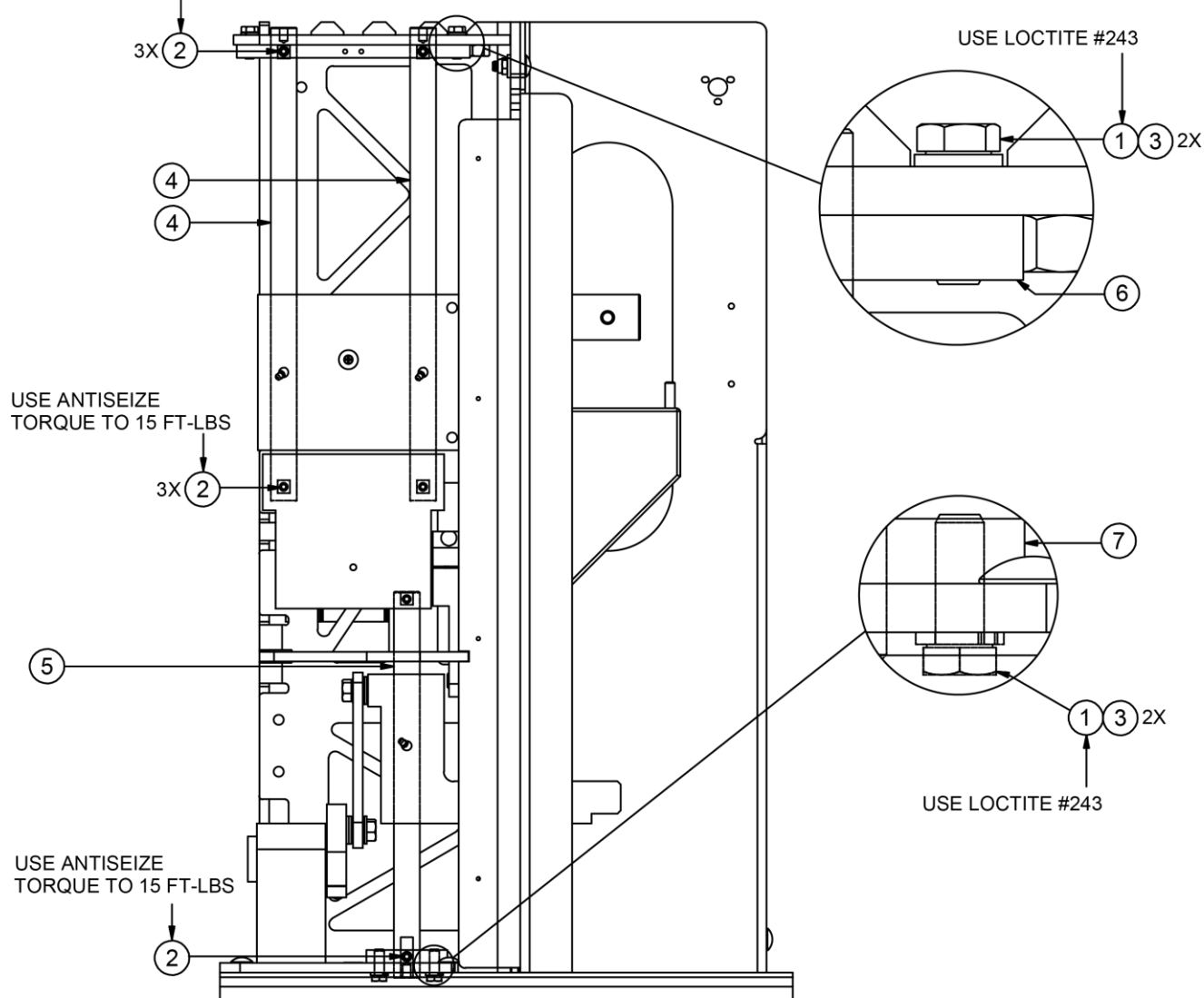


Figure 19. Rotating Assembly, Lower and Upper

9. Sliding Shafts

Item	Qty	Part Number	Description
1	5	004352395	Screw, Cap, Hex, 3/8 X 1, SS
2	9	0043541138	Screw, Cap, Hex, Socket Set Cup Point, 3/8-16
3	16	004806070	Washer, Lock, 3/8" Reg, SS
4	2	06000064	Upper Cup Drive Linear Shaft
5	1	06000063	Linear Orifice Drive Shaft
6	1	06010064	Block, Guide, Upper Cup Guide Rods
7	1	06010065	Block, Guide, Orifice Rod

USE ANTISEIZE
TORQUE TO 15 FT-LBS



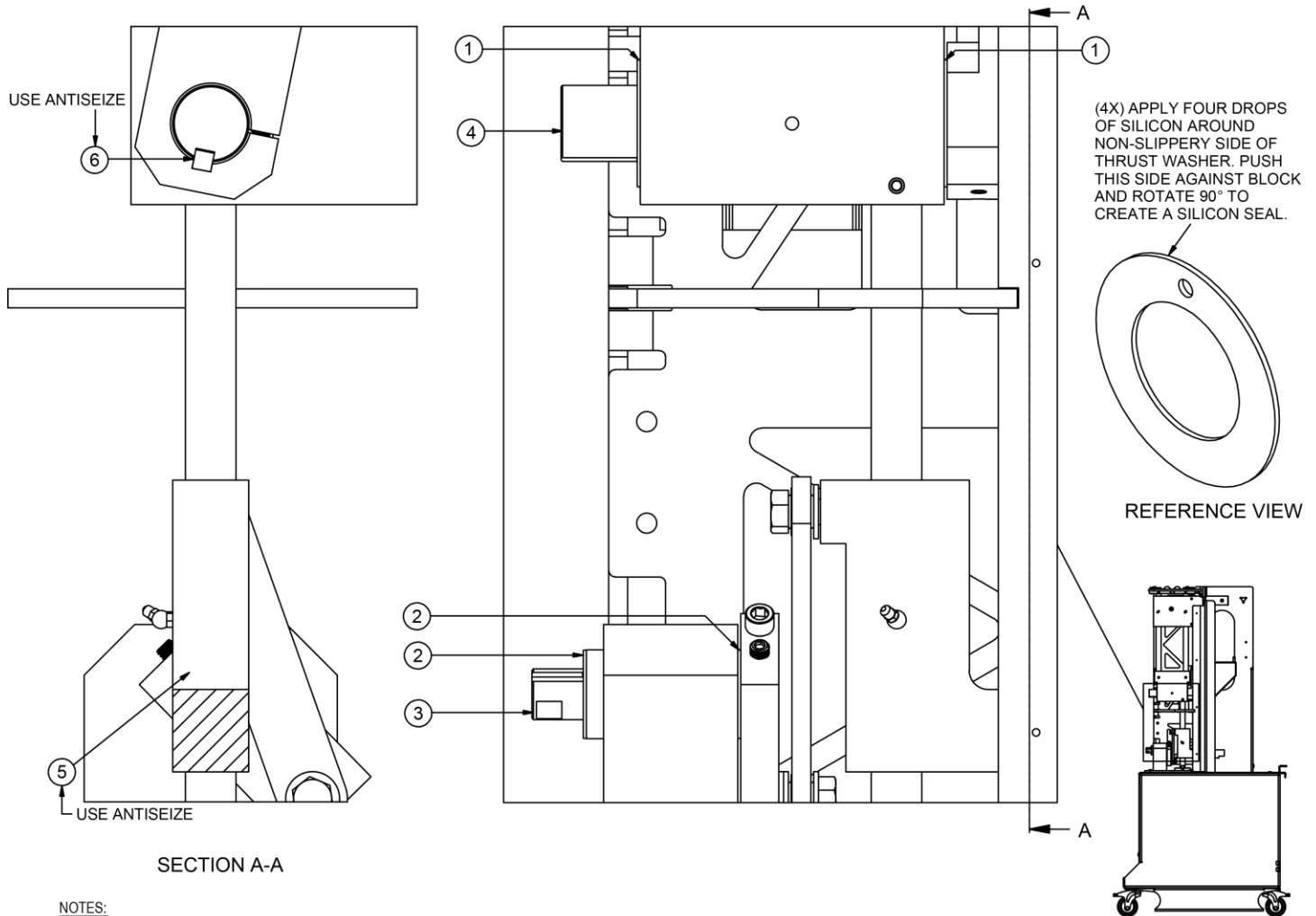
NOTES:

1. FOLLOW THREAD COATING AND TORQUE INSTRUCTIONS.
2. INSTALL UPPER SHAFTS FIRST.
3. LEAVE UPPER SHAFT EDGE BOLTS LOOSE.
SLIDE CUP DRIVE ARM UP, THEN TIGHTEN BOLTS.

Figure 20. Sliding Shafts

10. Rotating Shafts, Thrust Bearings

Item	Qty	Part Number	Description
1	2	005062805	Washer, Thrust, 1-1/2" ID X 2-1/2" OD
2	2	005098112	Thrust Washer
3	1	06006061	Shaft, Rotary Orifice Drive
4	1	06006101	Rotary Main Drive Shaft
5	1	005576061	Key, Square, 1/4" X 3/4" Lg, 416SS
6	1	005576286	Key, Square, 3/8" X 1-1/4" Lg, 3046SS



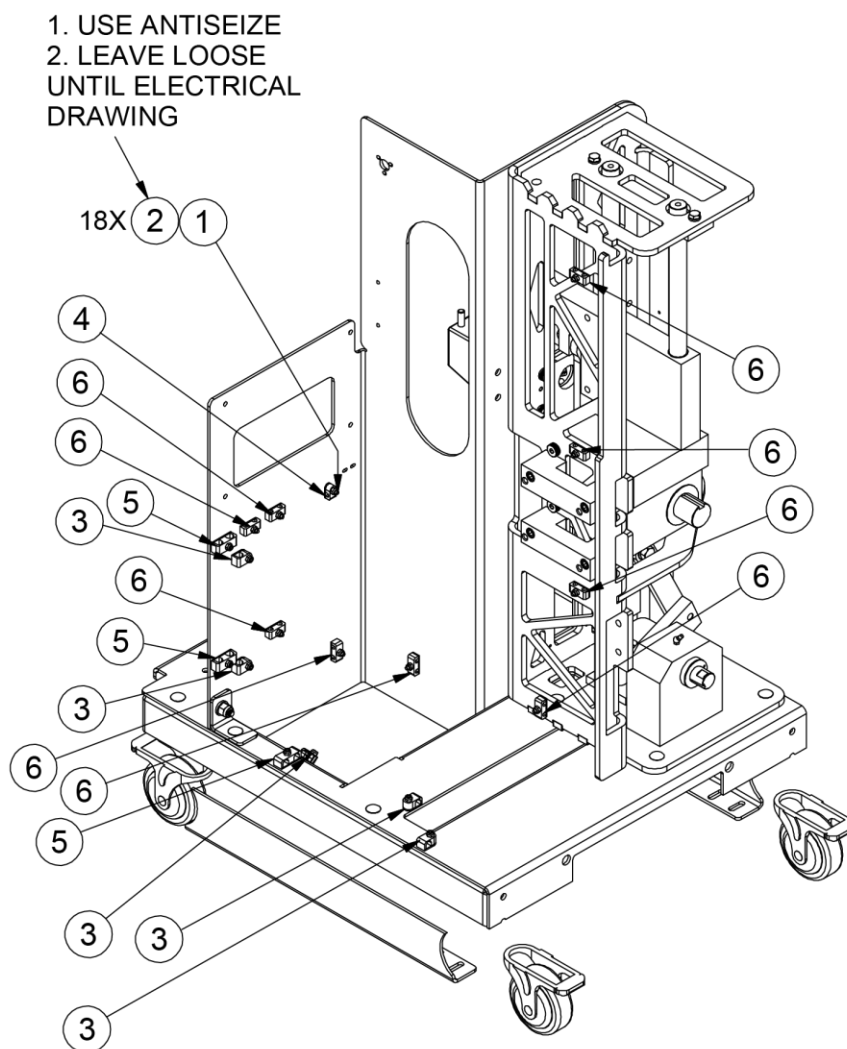
NOTES:

1. COAT ALL SHAFTS AND RECEIVING HOLES WITH A THIN LAYER OF ANTISEIZE.
2. FOR EACH THRUST WASHER, PLACE 4 DROPS OF SILICONE ON SIDE WITHOUT THE SLIDING SURFACE. MATE ONTO SURFACE SLIDING SIDE AWAY FROM BLOCK. PUSH AND ROTATE 90° TO SMEAR SILICONE AND CREATE BOND.
3. TIGHTEN CRANK ARM BOLTS AND CRANK KEY SET SCREWS TO THE SPECIFIED TORQUE SPECS NOW, USING SPECS SHOWN ON ROTATING ASSEMBLY DRAWING, FIG 17.

Figure 21. Rotating Shafts, Thrust Bearings

11. Wiring Routing Tabs, Weld Stubs

Item	Qty	Part Number	Description
1	18	004705106	Stud, Weld, Threaded Flange, #10-24 X 3/4" Lg, SS
2	20	004156041	Nut, Hex, S/L, #10-24, SS
3	5	006270314	Clamp, Chemical Resistant, 7/16" ID, 1" Line
4	1	006270317	Clamp, Chemical Resistant, 1/4" ID, 1" Line
5	3	006270318	Clamp, Chemical Resistant, 7/16" ID, 2" Line
6	9	006270319	Clamp, Chemical Resistant, 1/4" ID, 2" Line



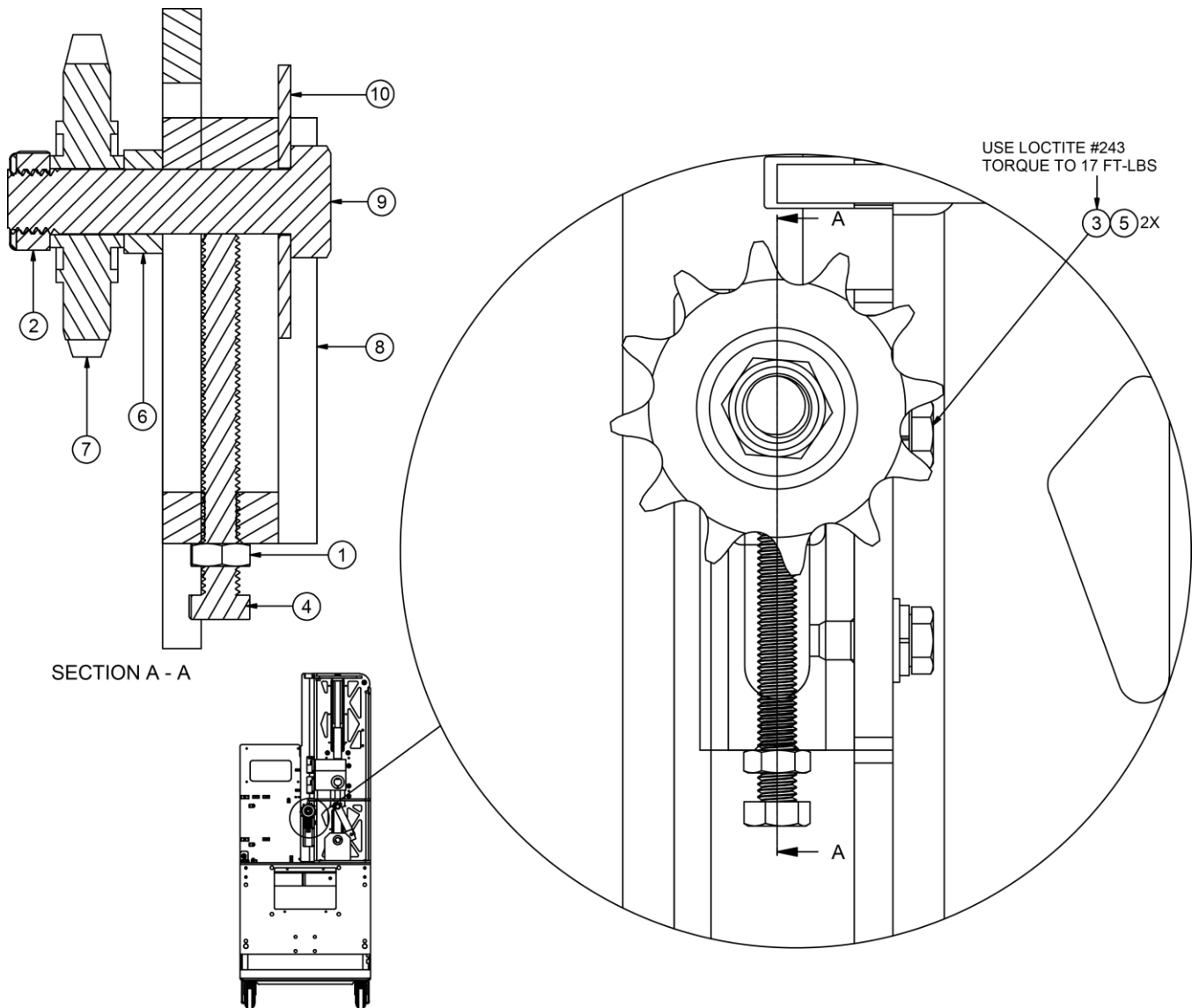
NOTES:

1. SPRAY WELD AREAS WITH ANTI SPATTER FOR EASY CLEANUP AFTER WELDING. THEN WELD.
2. WIGGLE TEST STUDS AFTER WELDING.
3. FOLLOW ALL THREAD COATING AND TORQUE INSTRUCTIONS.

Figure 22. Wiring Routing Tabs, Weld Stubs

12. Chain Tensioner

Item	Qty	Part Number	Description
1	1	004116026	Nut, Jam, 3/8-16, SS
2	1	004156118	Nut, Hex, S/L, Thin, 5/8-11, SS
3	2	004352392	Screw, Cap, Hex, 3/8-16 X 7/8" Lg, 304SS
4	1	004352415	Screw, Cap, Hex, Full Thread, 3/8-16 X 3-1/2" Lg, SS
5	16	004806070	Washer, Lock, 3/8" Reg, SS
6	1	004605030	Spacer, Unthreaded, 1" OD, 3/8" Lg, 5/8" Screw, 18-8SS
7	1	005806374	Sprocket, Idler, #60, 12T, 3/4" P, 1-9/16" Diameter
8	1	06010171	Mount, Chain Tensioner
9	1	06010355	Bolt, Idler Sprocket, Cut to Length
10	1	06010367	Chain Tensioner Washer, 5/8"



NOTES:

1. FOLLOW LABELED THREAD COATING AND TORQUE INSTRUCTIONS.
2. ENSURE RECTANGULAR TENSIONER WASHER SITS FLAT AGAINST BLOCK BEFORE TIGHTENING!

Figure 23. Chain Tensioner

13. Chain, Sprocket and Motor Mounting

Item	Qty	Part Number	Description
1	4	004110066	Lock Nut, Nylon Insert, Thin, 3/8-16, 18-8SS
2	2	004355051	Screw, Cap, Hex, Socket Head, 3/8-16 X 2" Lg, S/L, Alloy
3	2	004541112	Screw, Set, Hex, S/L, 5/16-18 X 3/4" Lg, C/G
4	9	004541138	Screw, Socket Set, Cup Point, 3/8-16
5	4	004701002	Stud, Fully Threaded, 3/8-16 X 2-1/4" Lg, 18-8SS
6	18	004705106	Stud Weld, Threaded Flange, 10-24 X 3/4" Lg, SS
7	16	004806070	Washer, Lock, 3/8" Reg, SS
8	1	005220148	Chain, #60, Single Strand, Plus (1) Con, (1) Half Link, Steel
9	1	005576242	Key, Square, 1/4" X 1" Lg, 416SS
10	1	005804235	Sprocket, Wear Resistant, 1-1/4", 16T, ANSI60 Chain
11	1	06000065	Sprocket, Orifice Drive
12	1	06006120	Sprocket, Upper Cup Drive Arm

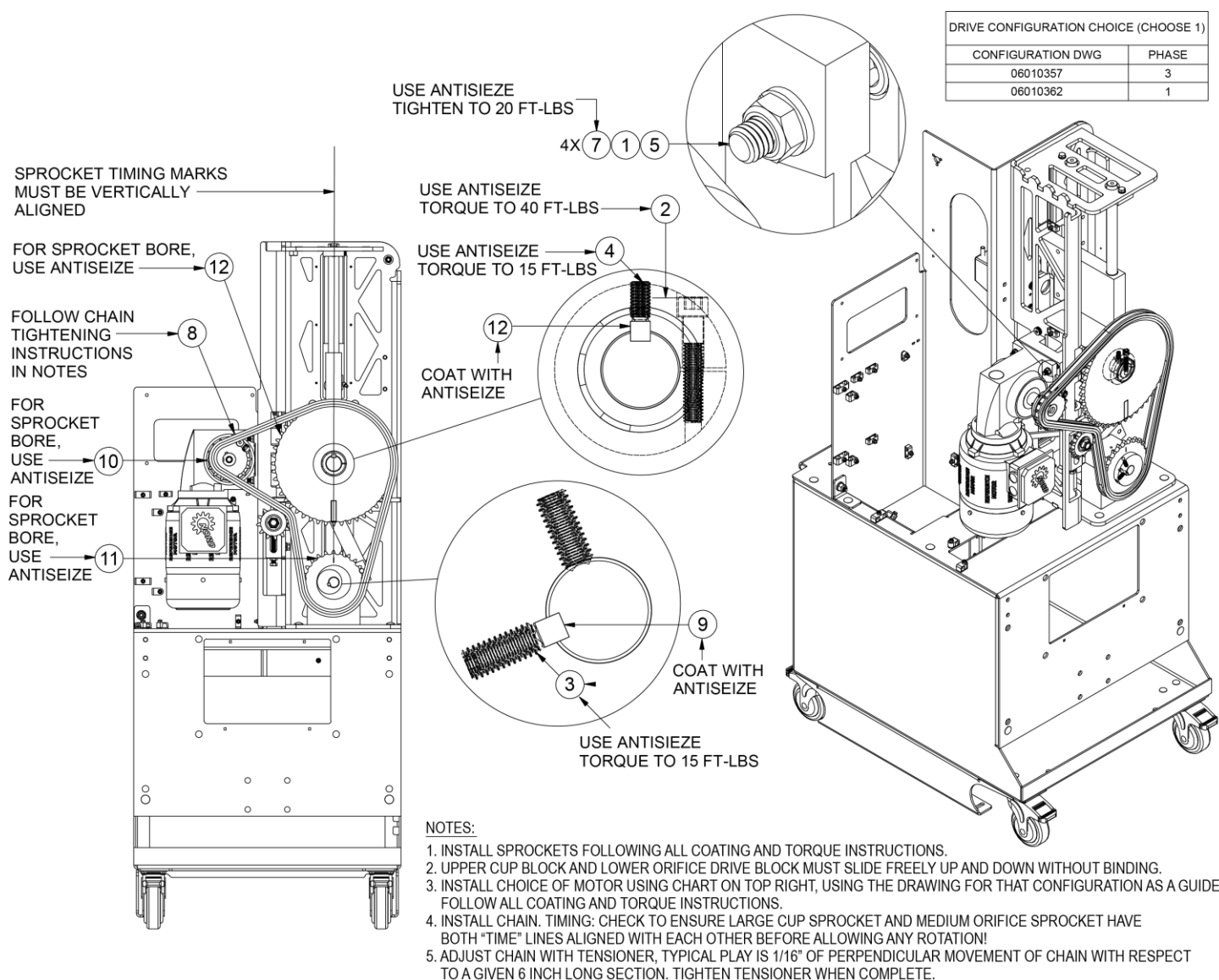
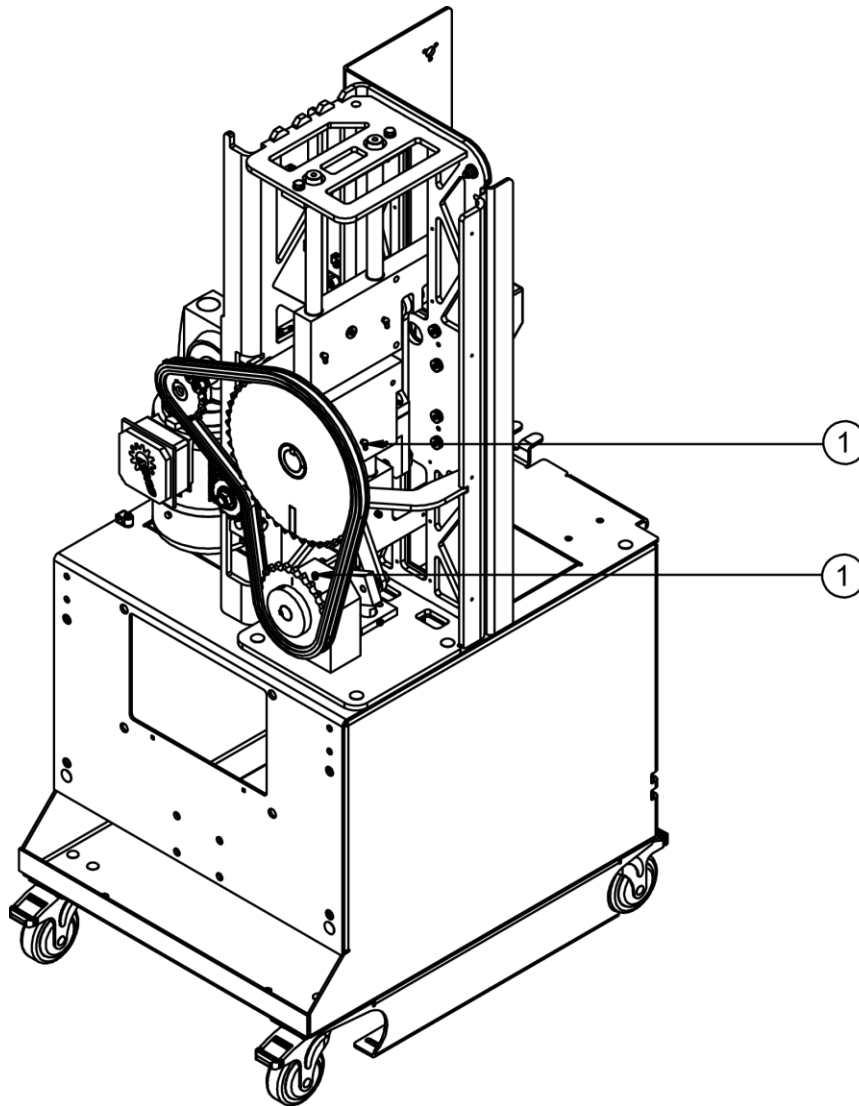


Figure 24. Chain, Sprocket and Motor Mounting

14. Grease Fittings

<u>Item</u>	<u>Qty</u>	<u>Part Number</u>	<u>Description</u>
1	2	007120205	Fitting, Grease, 1/4-28 x 45mm



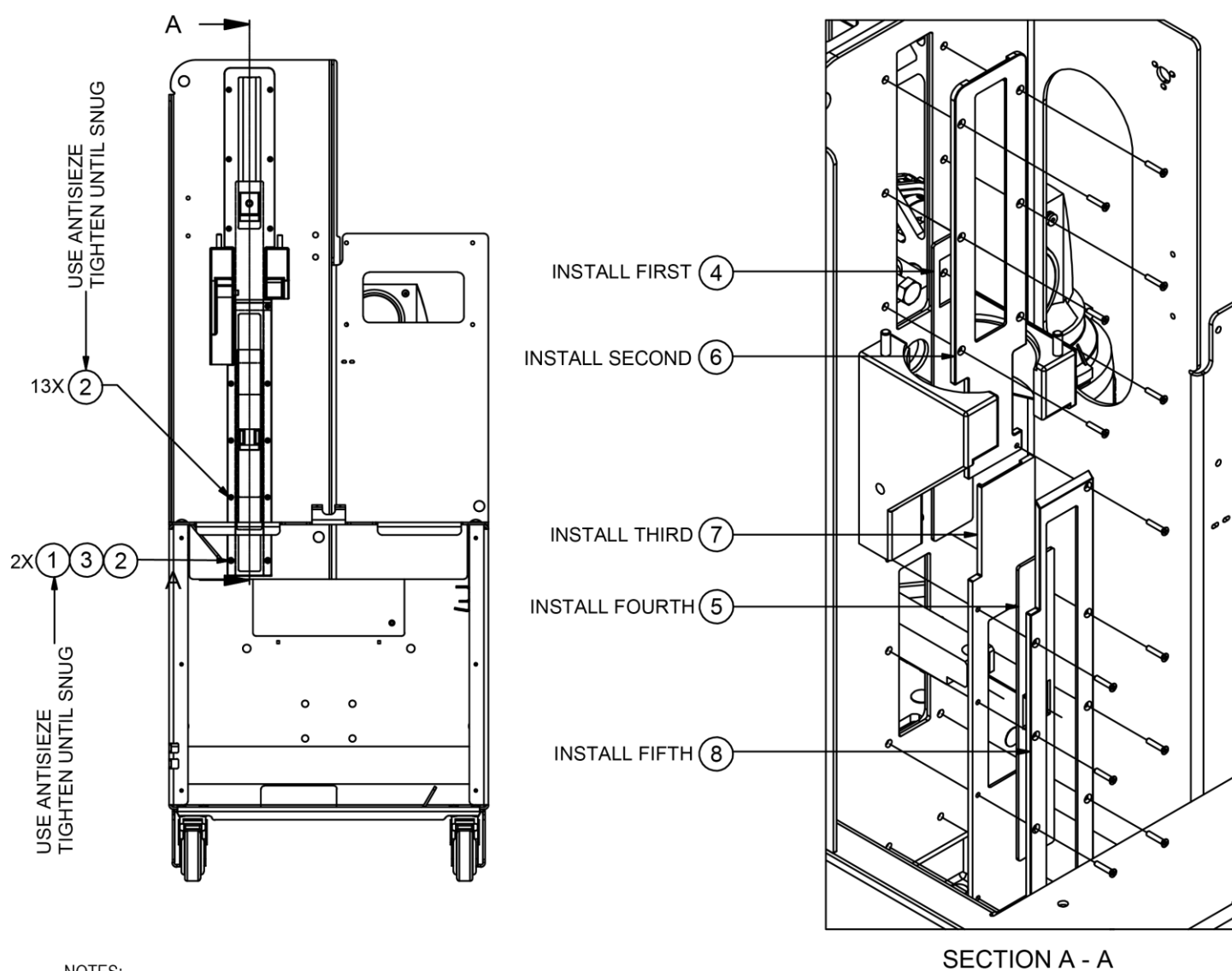
NOTES:

1. INJECT GREASE ON ALL CONNECTORS. STOP WHEN GREASE SEEPS FROM GAPS.

Figure 25. Grease Fittings

15. Splash Guards

Item	Qty	Part Number	Description
1	20	004156041	Nut, Hex, S/L, #10-24, SS
2	15	004385055	Screw, Machine, Flat Head, #10-24 X 1" Lg, Phillips Head
3	10	004816052	Washer, Plain, #10, SS
4	1	06010216	Splash Guard, Upper
5	1	06010217	Splash Guard, Lower
6	1	06010262	Upper Guard Cover, Upper Splash Guard
7	1	06010263	Lower Guard Base, Lower Splash Guard
8	1	06010264	Lower Guard Cover, Lower Splash Guard



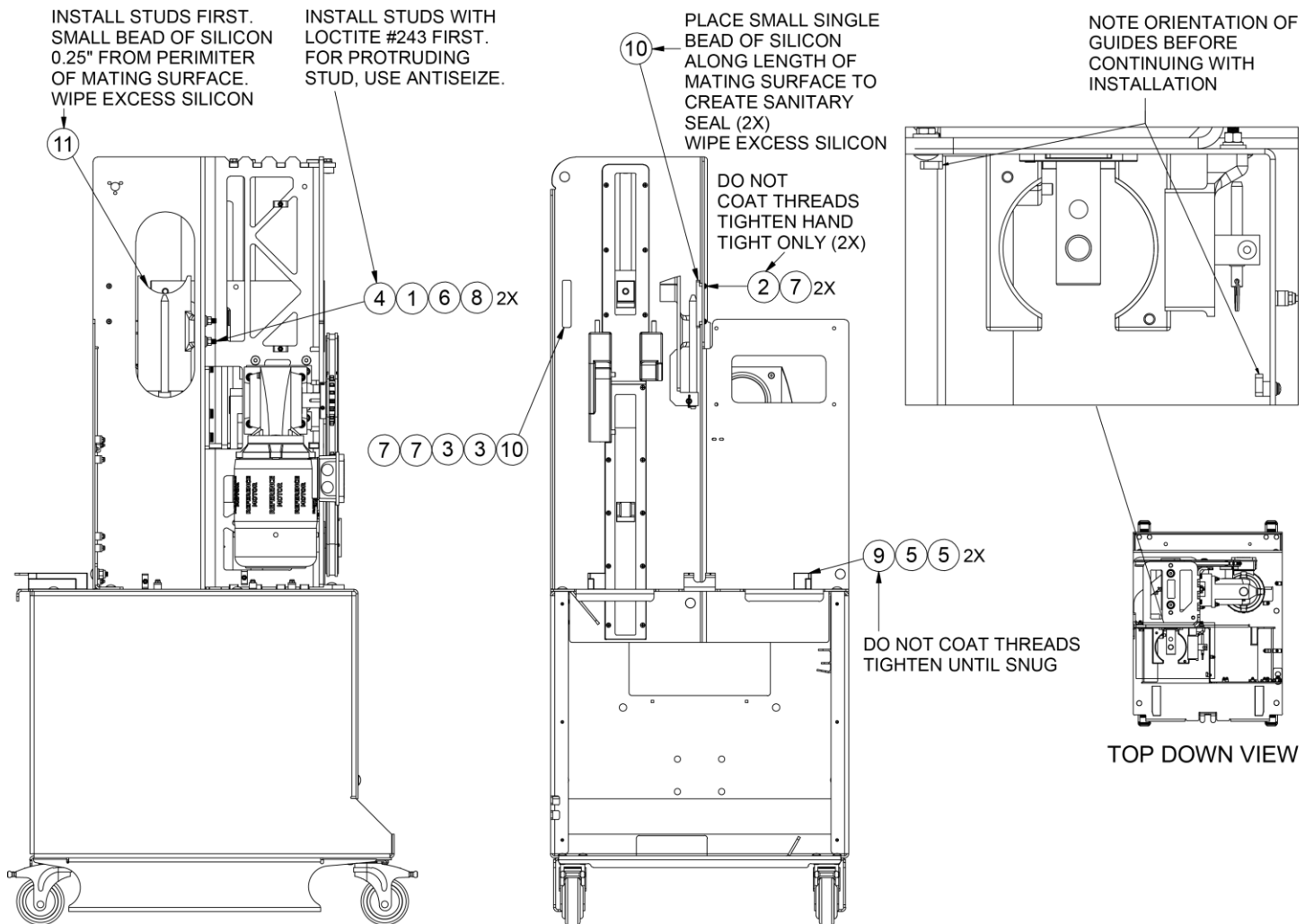
NOTES:

1. FOLLOW LABELED THREAD COATING AND TORQUE INSTRUCTIONS.

Figure 26. Splash Guards

16. Splash Shield Guides, Fruit Guides

Item	Qty	Part Number	Description
1	2	004111048	Nut, Hex, 3/8-16, SS
2	2	004392170	Screw, Machine, Pan, #10-24 X 1/2" Lg, Phillips Head, 304SS
3	2	004397075	Screw, Round Head, Pan, 10-24 Threaded, 7/8" Lg, Phillips Head, 18-8SS
4	2	004405008	Screw, Set, Cup Point, 3/8-16 X 1-1/4" Lg, 18-8SS
5	4	004501152	Screw, Cap, Hex, S/L, 3/8-16 X 1" Lg, SS
6	16	004806070	Washer, Lock, 3/8", SS
7	10	004816052	Washer, Plain, #10, SS
8	15	004816086	Washer, Flat, 3/8", 7/8" Diameter, SS
9	1	06010207	Reservoir Slide Base
10	1	06010329	Fruit Guide Kit, Small Fruit



NOTES:

1. VIEW GUIDE ORIENTATION NOTE BEFORE CONTINUING TO NEXT STEP.
2. FOLLOW ALL THREAD COATING AND TORQUE SPECIFICATIONS.

Figure 27. Splash Shield Guides, Fruit Guides

17. Fruit Lift, Hopper Mounting

Item	Qty	Part Number	Description
1	5	004352395	Screw, Cap, Hex, 3/8" X 1" Lg, SS
2	2	004352410	Screw, Cap, Hex, 3/8-16 X 2-1/4" Lg, 304SS
3	2	004356104	Screw, Cap, Hex, Socket Head, 3/8-16 X 1" Lg, 316SS
4	52	004401023	Screw, Phillips Head, Extra Wide, 8-32 Threaded, SS
5	1	004605029	Standoff, Hex, 5/8" X 1-2/3" Lg, 18-8SS
6	4	004816080	Washer, Plain, 3/8" N, 304SS
7	15	004816086	Washer, Flat, 3/8", 7/8" Diameter, SS
8	1	06010240	Fruit Lift, Mount Block
9	1	06010243	Mount, Hopper, Bolt

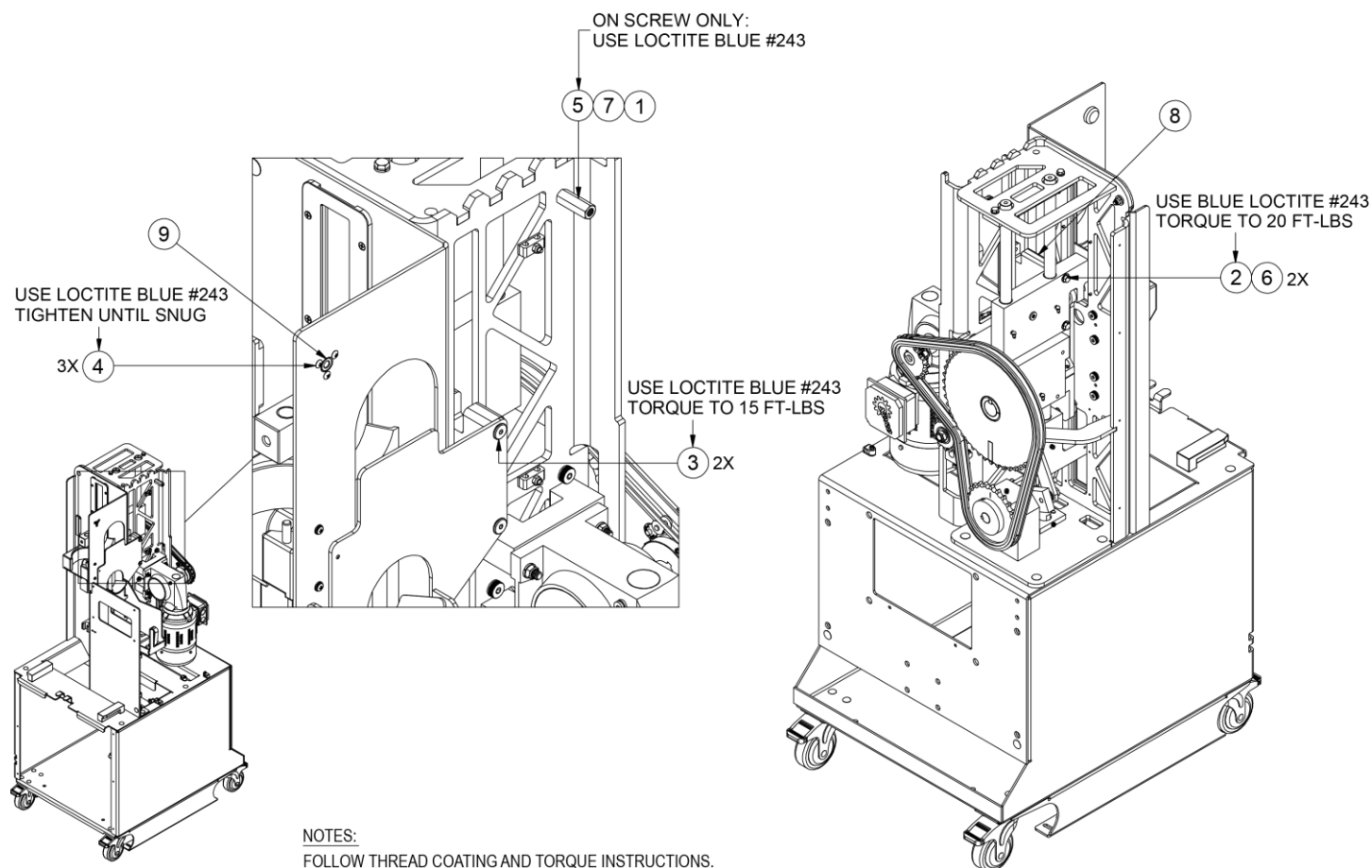
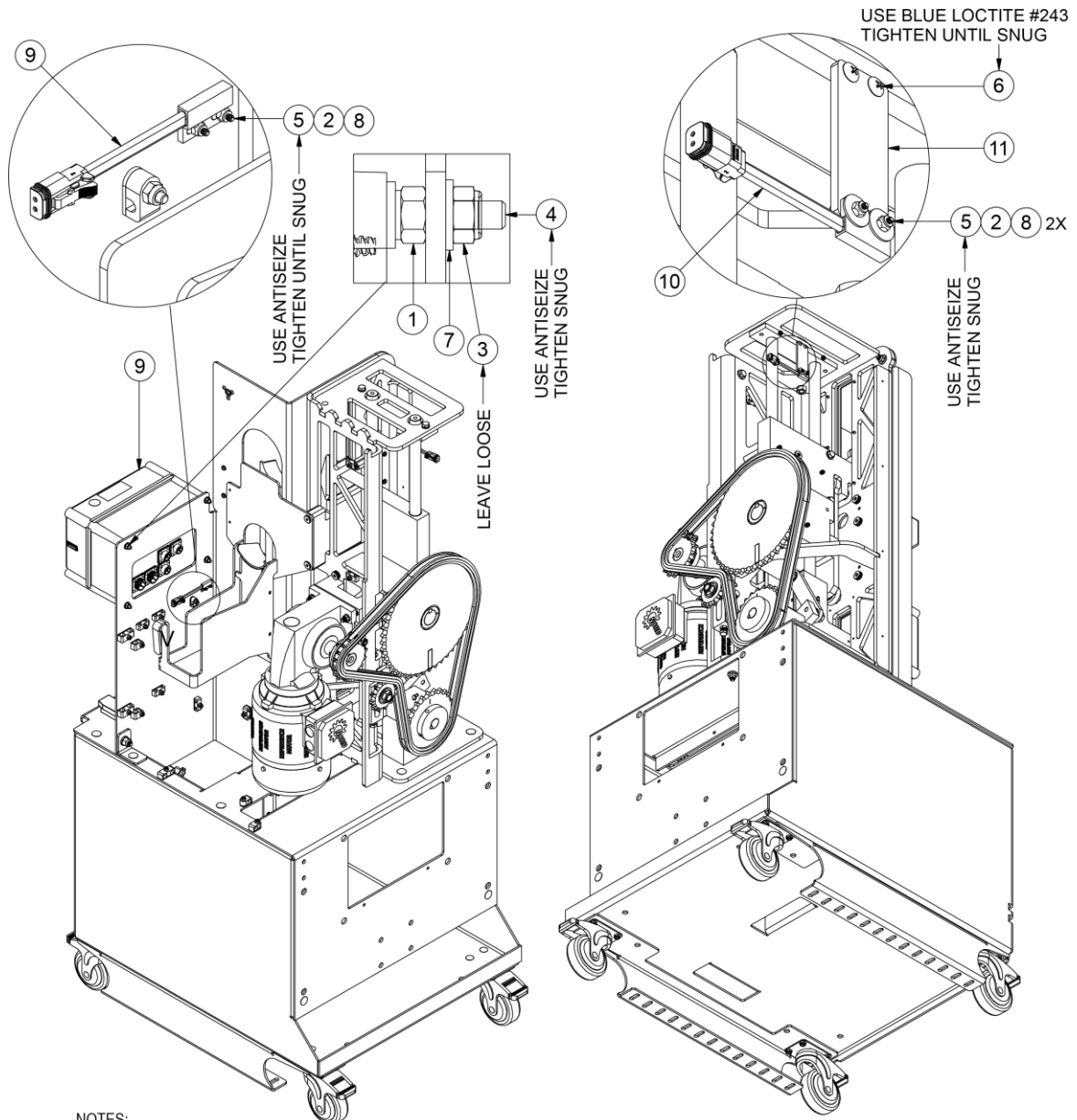


Figure 28. Fruit Lift, Hopper Mounting

18. HMI Mounting, Proximity Sensors for Float and TDC

Item	Qty	Part Number	Description
1	12	004011032	Bolt, Carriage, 3/8-16 X 1-1/4" Lg, 304SS
2	4	004156014	Screw, Cap, Hex, 3/8-16 X 2-1/4" Lg, 304SS
3	4	004356104	Nut, Hex, S/L, 4-40, SS
4	4	004356064	Screw, Cap, Socket Head, 1/4-20 X 1-1/4" Lg, SS
5	4	004396116	Screw, Round, Bind, Slot, Extra Wide, 4-40 Threaded, 5/8" Lg, SS
6	52	004401023	Screw, Phillips, Extra Wide, 8-32 Threaded, 1/4" Lg, 18-8SS
7	4	004816080	Washer, Plain, 3/8" N, 304SS
8	6	004816095	Washer, #6, .149 ID, .625 OD, Oversized, 304SS
9	1	06010118	Electrical Panel Assembly
10	1	06010305	Proximity Switch Assembly, Normally Open Connection
11	1	06010306	TDC Sensor Bracket



NOTES:
FOLLOW ALL THREAD COATING AND TORQUE INSTRUCTIONS.

Figure 29. HMI Mounting, Proximity Sensors for Float and TDC

19. Electrical Connections

NOTES

1. USING SELECTED MOTOR CONFIGURATION, ROUTE ALL CORDS ON THIS PAGE USING THE TABLE AS A GUIDE.
2. DOUBLE CHECK MOTOR SET-UP BEFORE RUNNING OR OPERATING THE MACHINE.
3. ONCE CORDS ARE ROUTED PER THIS PAGE, TIGHTEN NOTED BOLTS WHICH HAVE BEEN LEFT LOOSE.
4. CONSULT CONFIGURATION DRAWING FOR SELECTED CONFIGURATION ON TABLE TO COMPLETE FINAL WIRING WHICH IS NOT SHOWN ON THIS DRAWING.
5. ROUTE PROPER POWER CORD W/ COUNTRY SPECIFIC PLUG, SEE WORK ORDER. USE FOLLOWING TABLE FOR SELECTION OPTIONS (CHOOSE ONE).

DRIVE CONFIGURATION CHOICE (CHOOSE 1)						
CONFIGURATION DWG	PHASE	FEATURE A	FEATURE B	FEATURE C	FEATURE D	FEATURE E
06010357	3	CONNECT VFD-POWER CORD	CONNECT VFD-SIGNAL CORD	ROUTE VFD-POWER CORD THIS PATH	RECEIVING END OF VFD-MOTOR CORD	ROUTE VFD SIGNAL AND VFD POWER CORD THROUGH.
06010362	1	CONNECT MOTOR CORD	DO NOT USE	ROUTE MOTOR CORD THIS PATH	CONNECT MOTOR CORD	ROUTE MOTOR CORD

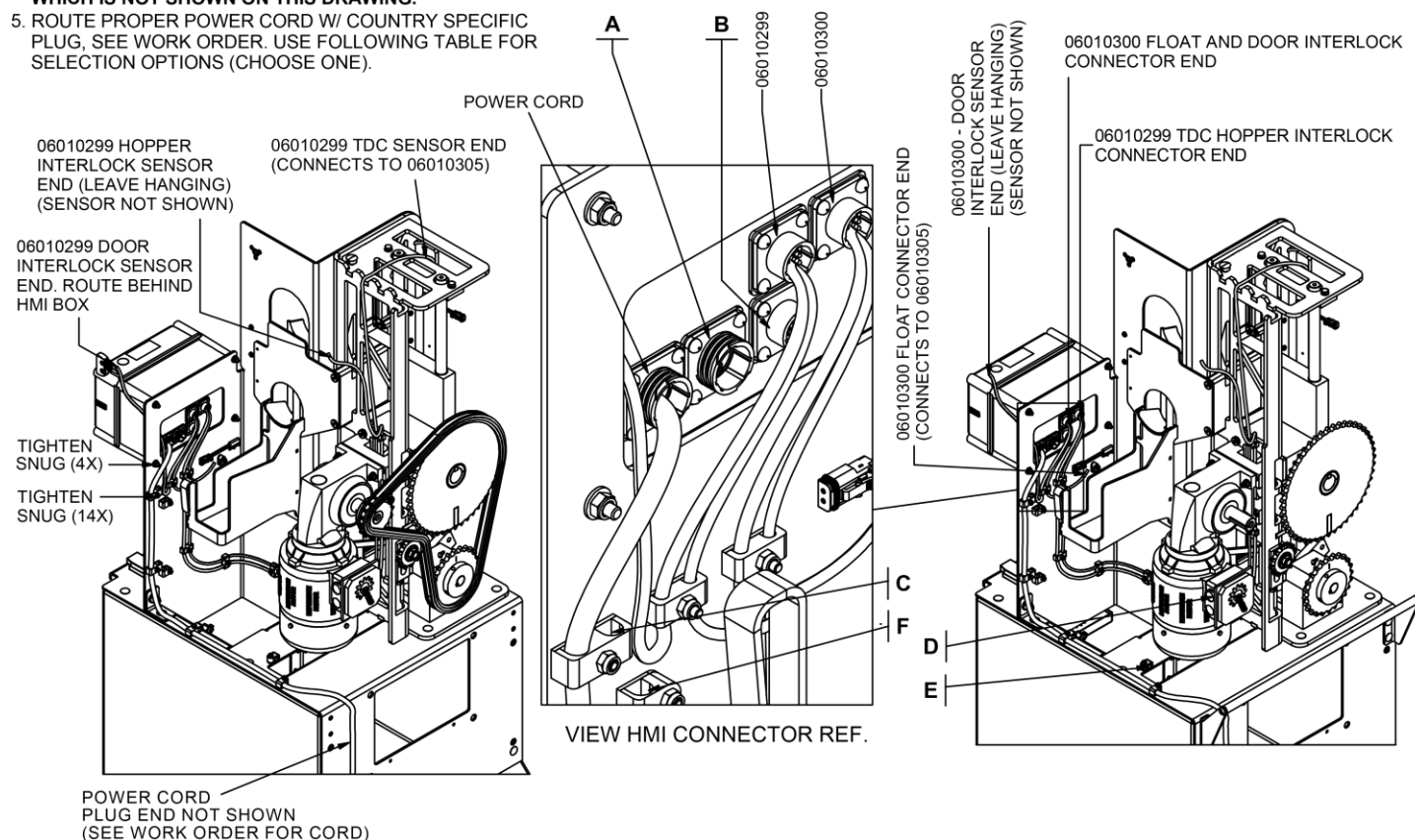
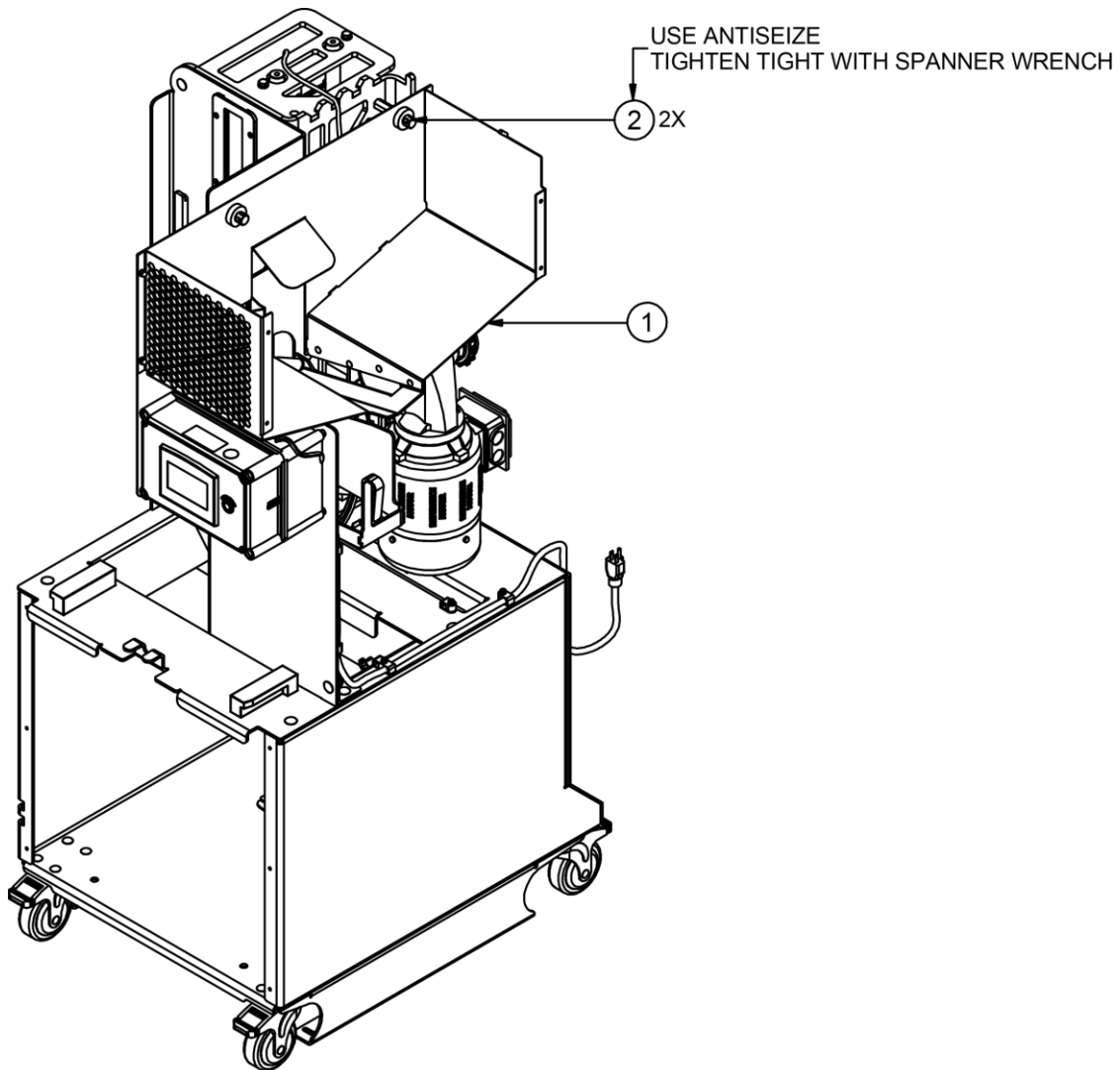


Figure 30. Electrical Connections

20. Hopper

<u>Item</u>	<u>Qty</u>	<u>Part Number</u>	<u>Description</u>
1	1	06010162	Hopper Assembly
2	2	06010254	Screw, Spanner, Hopper



NOTES:
FOLLOW ALL THREAD COATING AND TORQUE INSTRUCTIONS.

Figure 31. Hopper

21. Hopper Top Cover, Lid and Sensors

Item	Qty	Part Number	Description
1	6	004156032	Nut, Hex, S/L, Light, 8-32, 304SS
2	8	004385178	Screw, Span, Flat, 8-32 Threaded, 3/4" Lg, 18-8SS
3	52	004401023	Screw, Phillips, Extra Wide, 8-32 Threaded, 1/4" Lg, SS
4	1	006090018	Plug, Knockout, 7/8" ID Hole, Gray Nylon
5	2	009080421	Rubber Push-In Bumper with Tight-Grip Stem
6	2	009284961	Torque Hinge, Concealed, SS

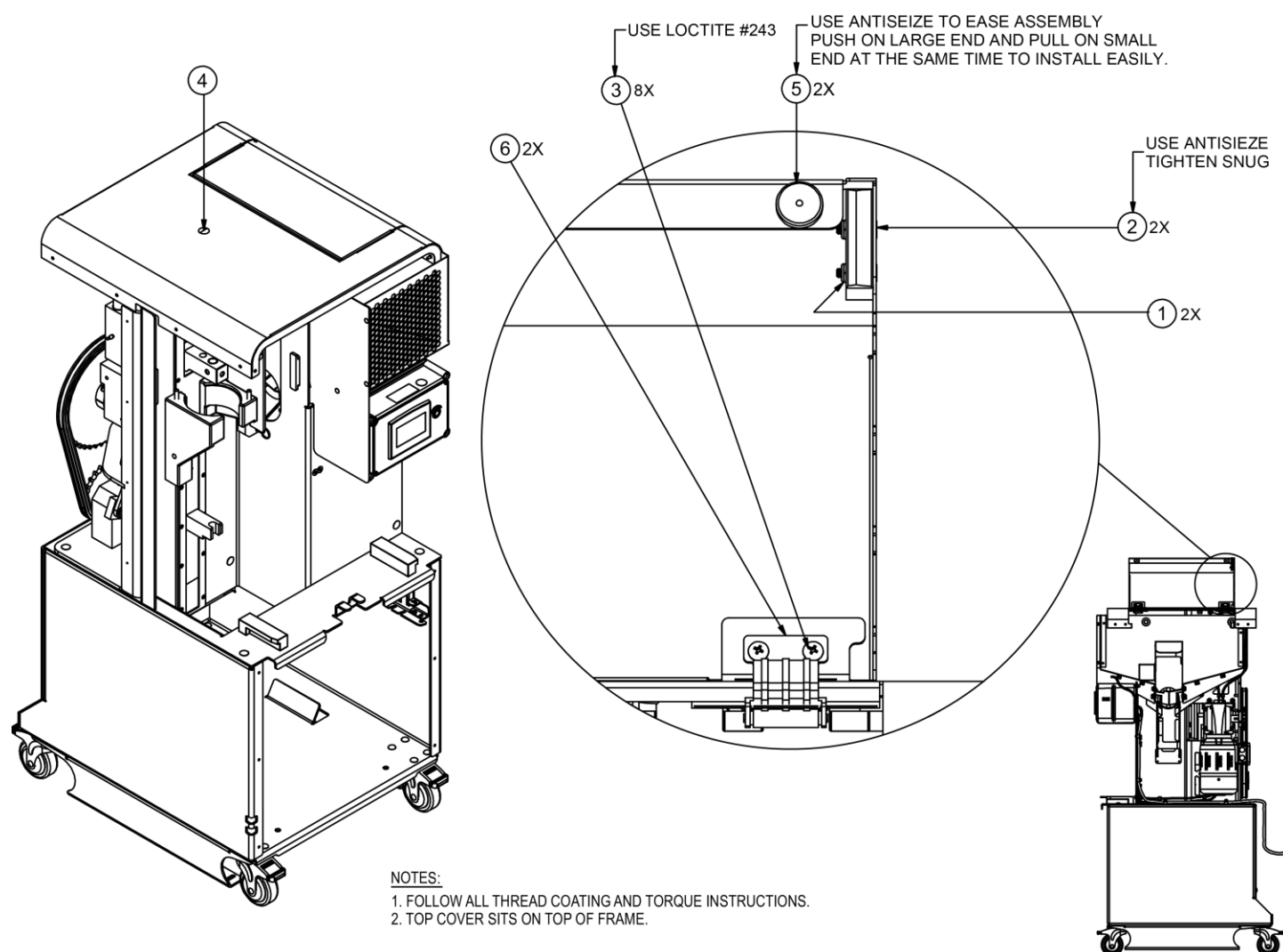
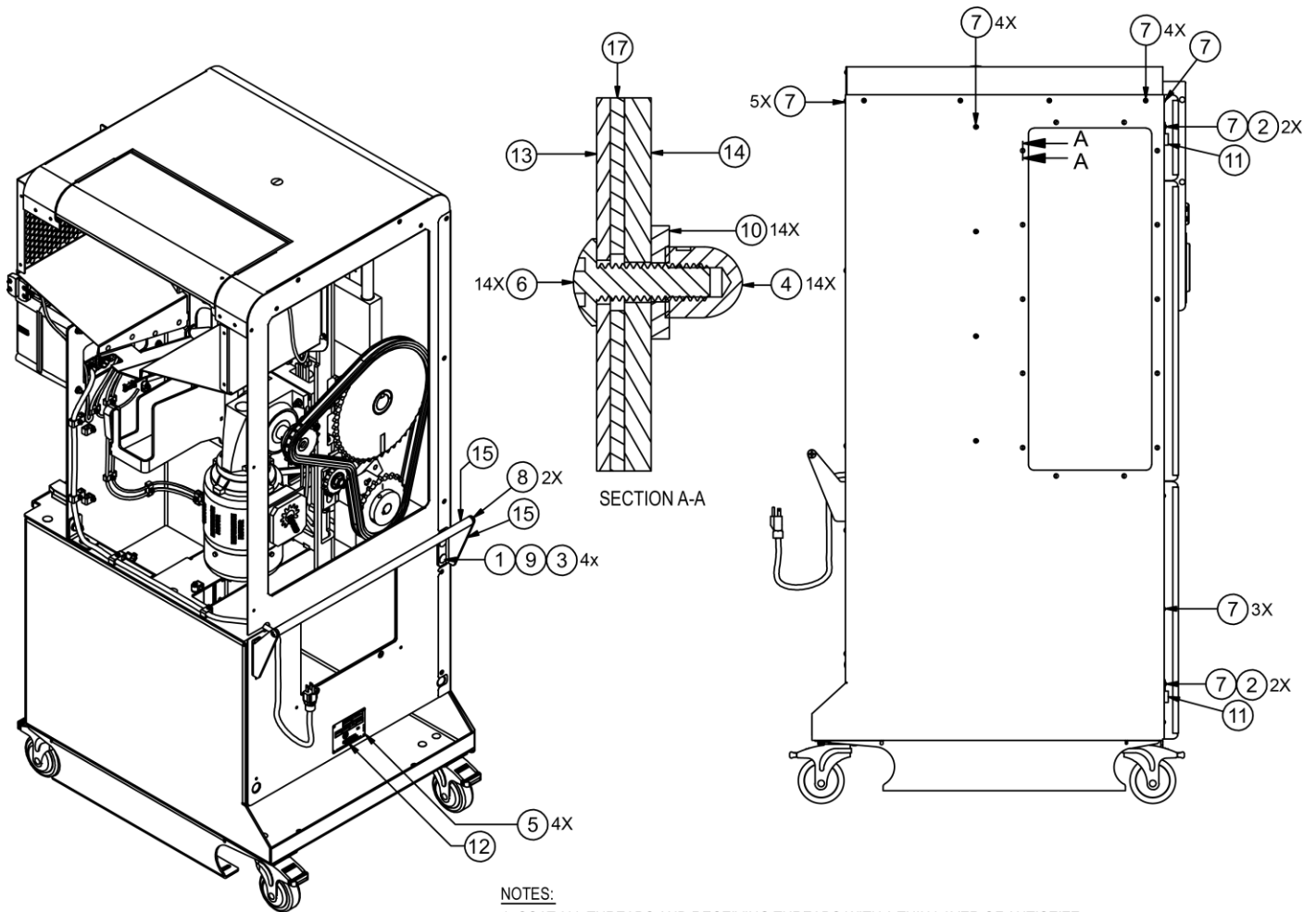


Figure 32. Hopper Top Cover, Lid and Sensors

22. Panels, Left and Rear

Item	Qty	Part Number	Description
1	12	004011032	Bolt, Carriage, 3/8-16 X 1-1/4" Lg, 304SS
2	4	004100004	Nut, Cap, Acorn, High Crown, #8-32, SS
3	4	004100018	Nut, Cap, Acorn, 3/8-16, SS
4	14	004156166	Nut, Acorn, Lock, Distorted Thread, 8-32. 18-8SS
5	4	004260017	Rivet, Pop, 1/8", SS
6	14	004385174	Screw, Round, Drilled Spanner, Extra Wide, 8-32 X 1/2", SS
7	52	004401023	Screw, Phillips Head, Extra Wide, #8-32 Threaded, SS
8	2	004510107	Screw, Button Head, 3/8-16 X 1" Lg, Philips, 18-8SS
9	15	004816086	Washer, Flat, 3/8", SS
10	14	004816105	Washer, Oversized, #8, 18-8SS
11	2	009284050	Female Hinge
12	1	01503948	Name Plate
13	1	06006311	Side Cover, LH
14	1	06006312	Glass, LH Side
15	1	06010178	Bracket, Handle, Left
16	1	06010180	Handle, MFJ Cart
17	1	06010209	Gasket, Window



NOTES:

1. COAT ALL THREADS AND RECEIVING THREADS WITH A THIN LAYER OF ANTISEIZE.
2. RIVET ON SERIAL NUMBER PLATES USING RIVETS.
3. ENGRAVE SERIAL AND OTHER APPICABLE IDENTIFICATION DIGITS.

Figure 33. Panels, Left and Rear

23. Service Panel, Right Panel

Item	Qty	Part Number	Description
1	6	004156032	Nut, Hex, S/L, Light, 8-32, 304SS
2	4	004385178	Screw, Span, Flat, 8-32 Threaded, 3/4" Lg, 18-8SS
3	2	004392175	Screw, Machine, Pan, 8-32 X 3/4" Lg, 304SS
4	52	004401023	Screw, Phillips, Pan, Extra Wide, 8-32 Threaded, 1/4" Lg, SS
5	1	06010349	Cover Assembly, RH Side

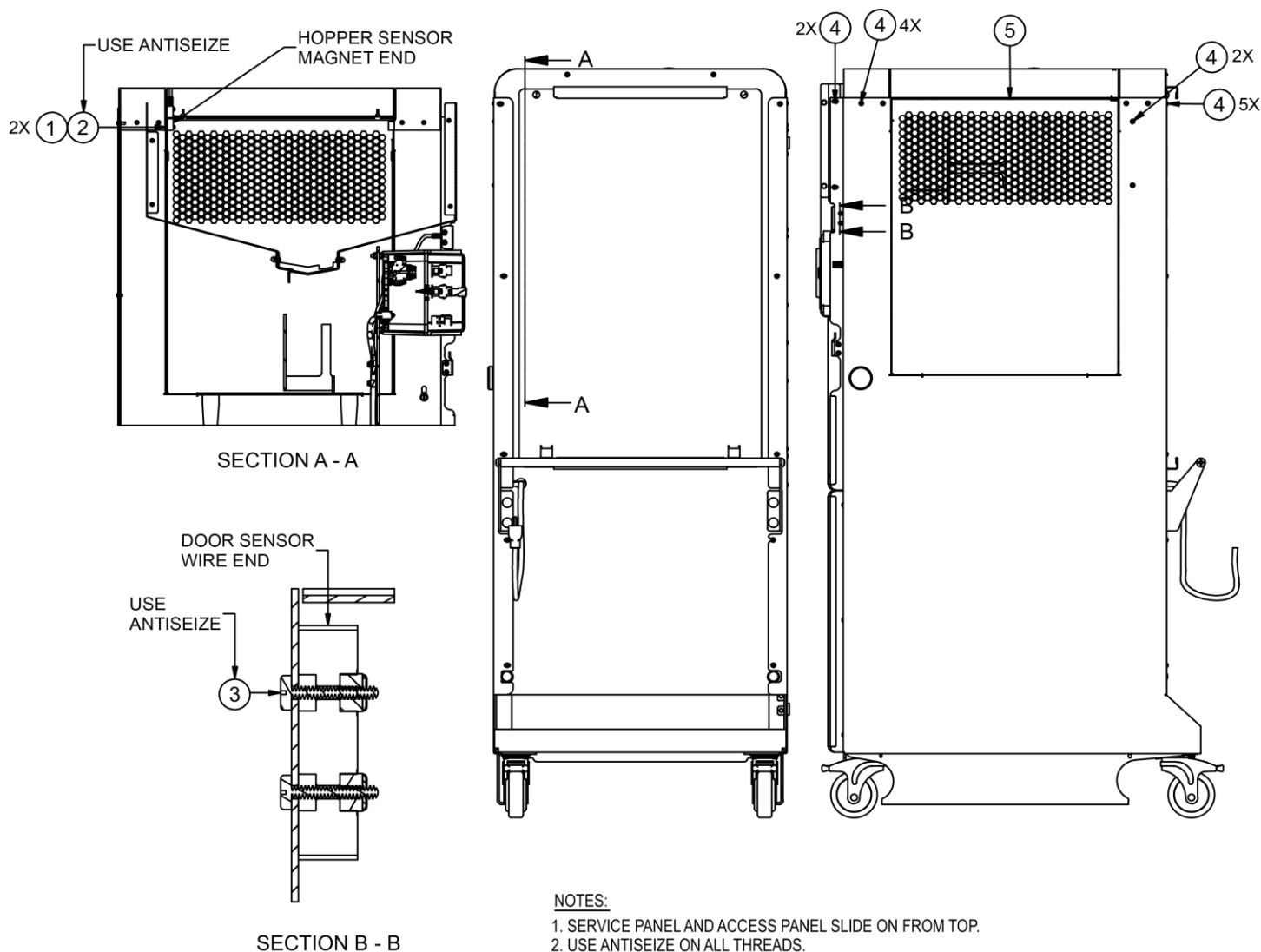


Figure 34. Service Panel, Right Panel, Decals

24. Decals

Item	Qty	Part Number	Description
1	1	009450032	Decal, Fresh N' Squeeze Logo
2	1	009450040	Decal, Cleaning Components
3	1	06000104	Decal, Warning Label, Sheer/Hand Crush, English/Spanish

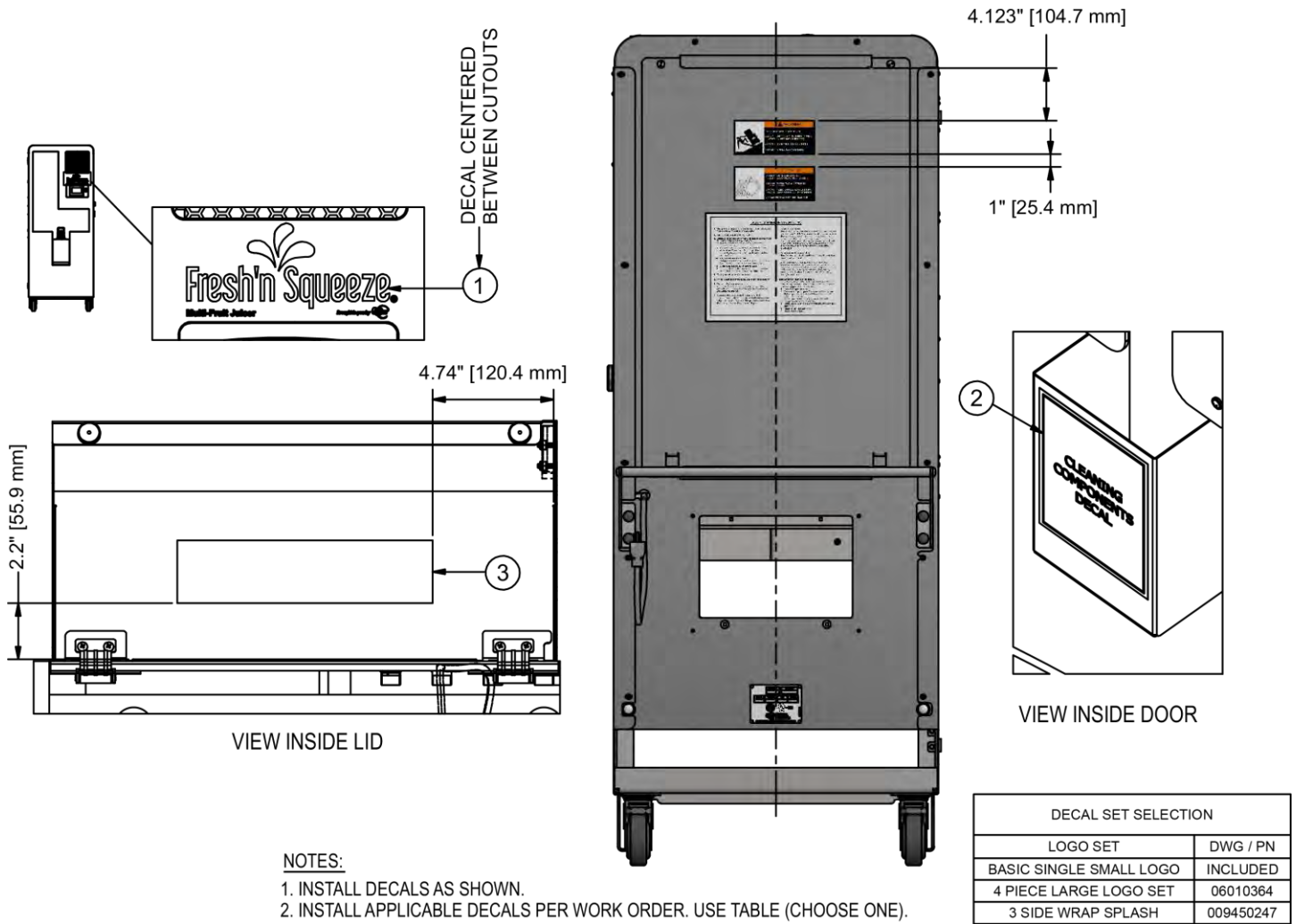
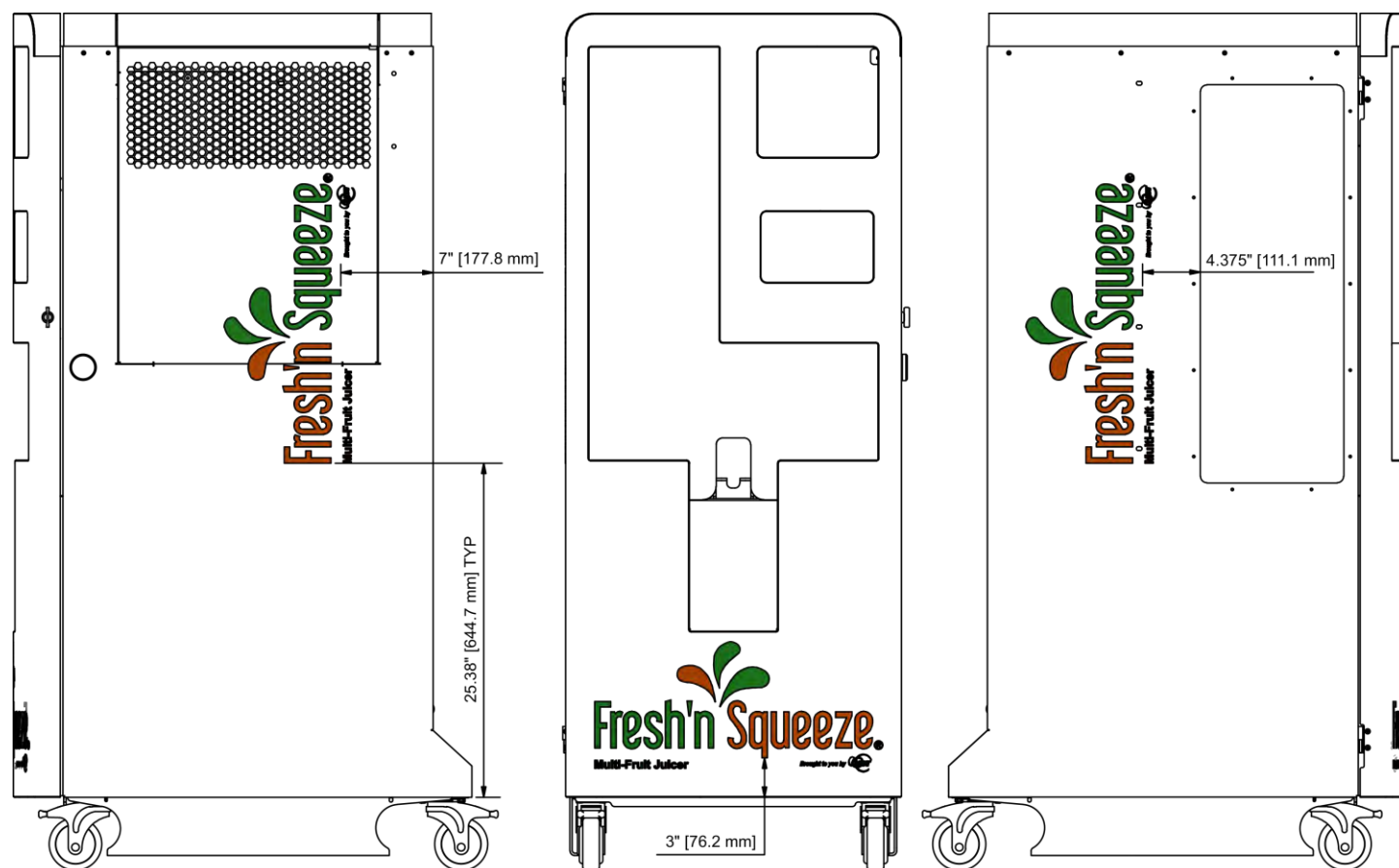


Figure 35. Decals

25. Decals, 3-Piece, Large Logo

Item	Qty	Part Number	Description
1	3	009450245	Decal, MFJ, Logo, Fresh 'N Squeeze, 10.25" X 22", Matte, Vinyl



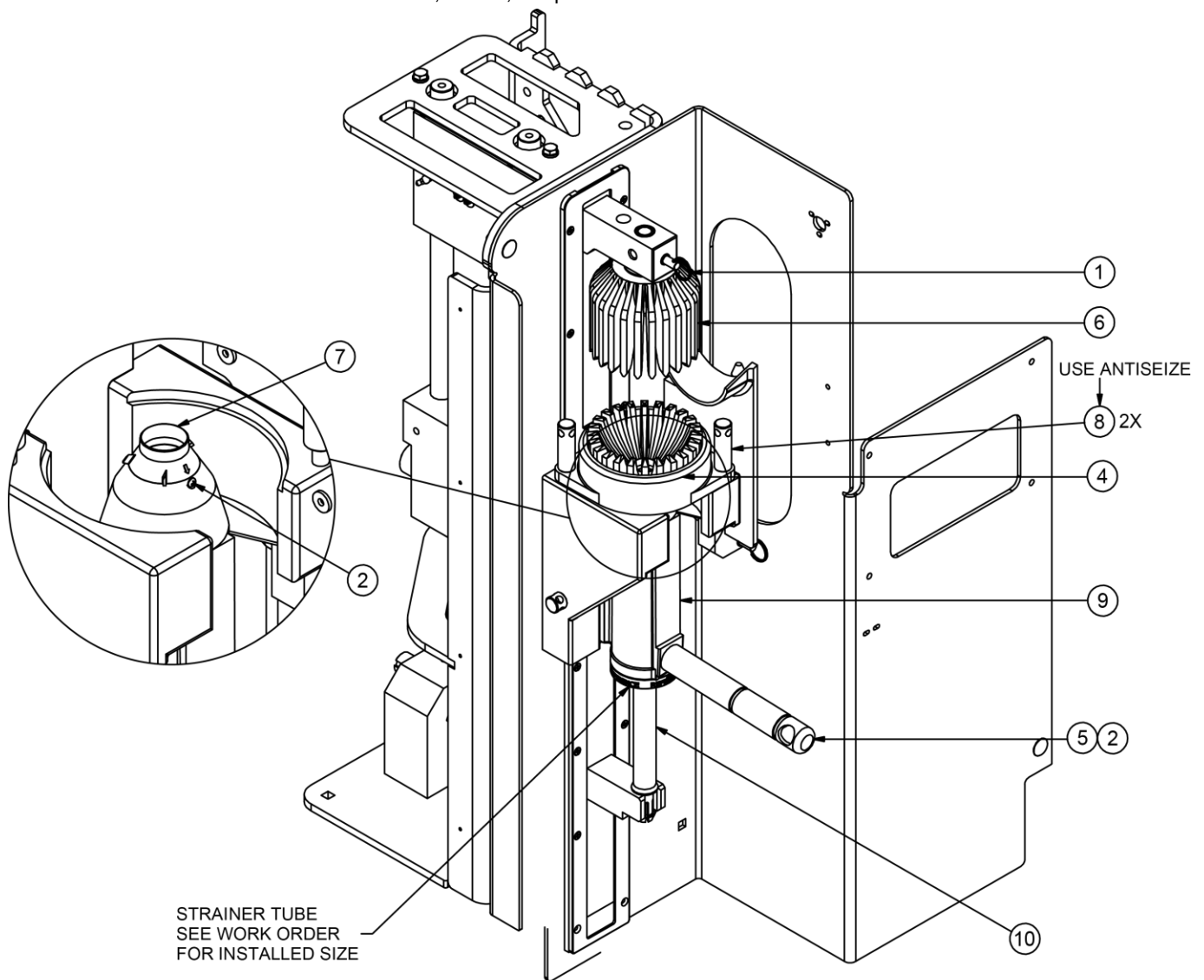
NOTES:

1. CLEAN SURFACES WITH ALCOHOL BEFORE APPLYING DECALS.

Figure 36. Decals, 3-Piece, Large Logo

26. Juicing Components

Item	Qty	Part Number	Description
1	1	004220037	Pin, Quick Release
2	1	004406003	Screw, Machine, Round, #4-40 X 3/16" Lg, 304SS
3	1	007486119	O-Ring, Nozzle, Viton, 1/16" Section
4	1	06000004	Cup, Lower, Machined
5	1	06000022	Nozzle, Straight
6	1	06000027	Cup, Upper, Assembly
7	1	06000092	Cutter and Knives, Machined
8	2	06000098	Nut, Spanner
9	1	06000108	Manifold, Juice
10	1	06010143	Tube, Orifice, Snap In



NOTES:

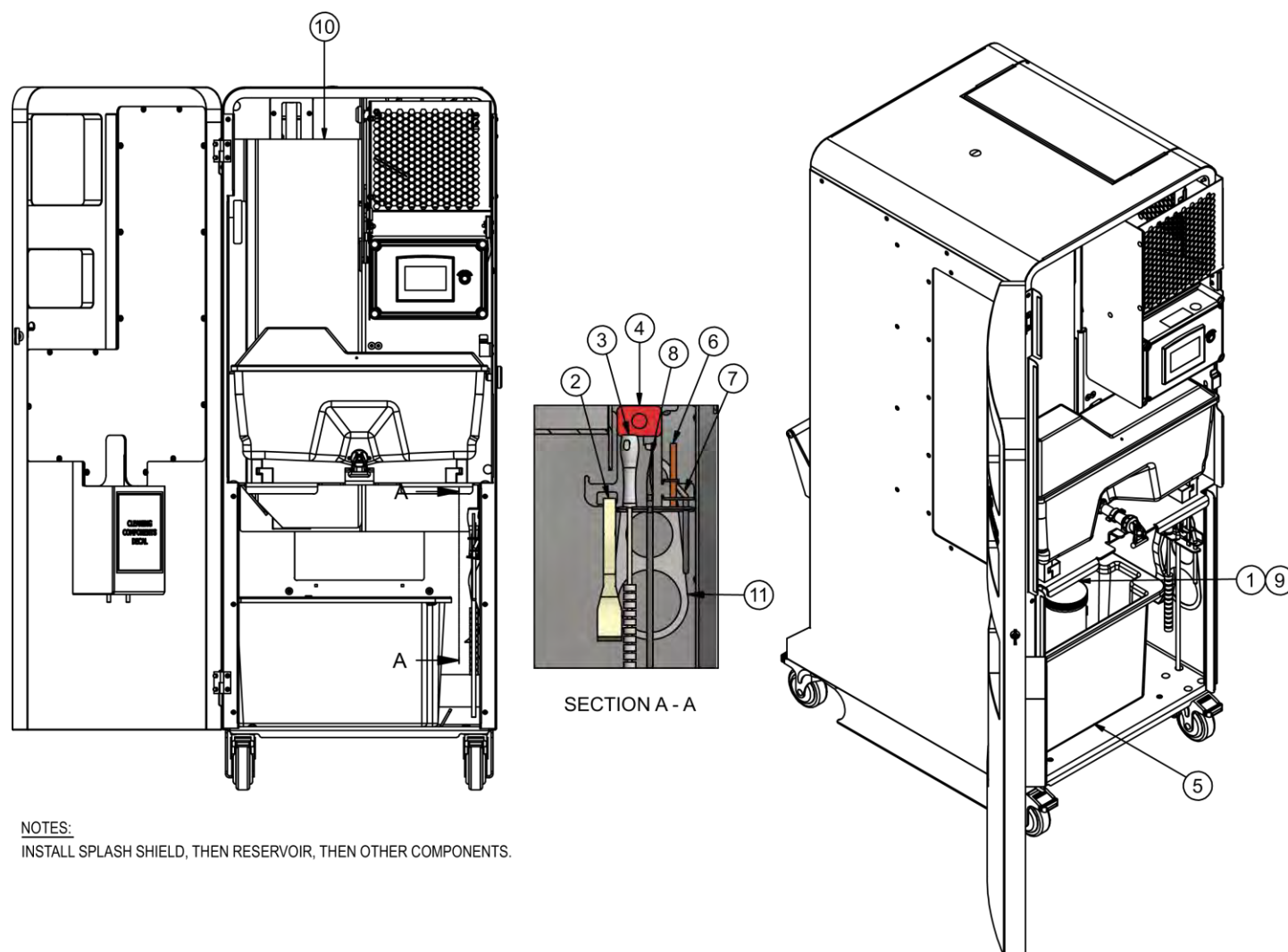
1. NEVER PLACE HANDS IN BETWEEN CUPS.
2. CHECK CLEARANCE WHEN CUP MOVES UP AND DOWN,
DO NOT PLACE HANDS IN BETWEEN CUPS WHILE DOING SO.
4. USE APPROPRIATE STRAINER TUBE PER WORK ORDER. USE TABLE (CHOOSE ONE).

STRAINER TUBE SELECTION	
STRAINER TUBE SIZE	DWG / PN
0.028"	06000289
0.033"	06000086
0.040"	06000208
0.055"	06000230

Figure 37. Juicing Components

27. Splash Shield, Waste Bin, Tools and Accessories

Item	Qty	Part Number	Description
1	1	003091001-2	Cleaner, Corklean, 2 lbs
2	1	009080327	Brush, Dish
3	1	009080328	Brush, Tube, 1"
4	1	009092018	Cap, Cover
5	1	009092023	Waste Container, 21" X 17" X 12", Polyethylene, Grey
6	1	009710031	Stone, Sharpening, Half Round
7	1	06000077	Tool, Wrench, 5/16" Diameter
8	1	06000084	Rod, Orifice Clean Out
9	1	06001127	Cleaning Component Kit, Corklean
10	1	06010188	Splash Shield
11	1	06010359	Triple Fruit Sizer, Hand-Held

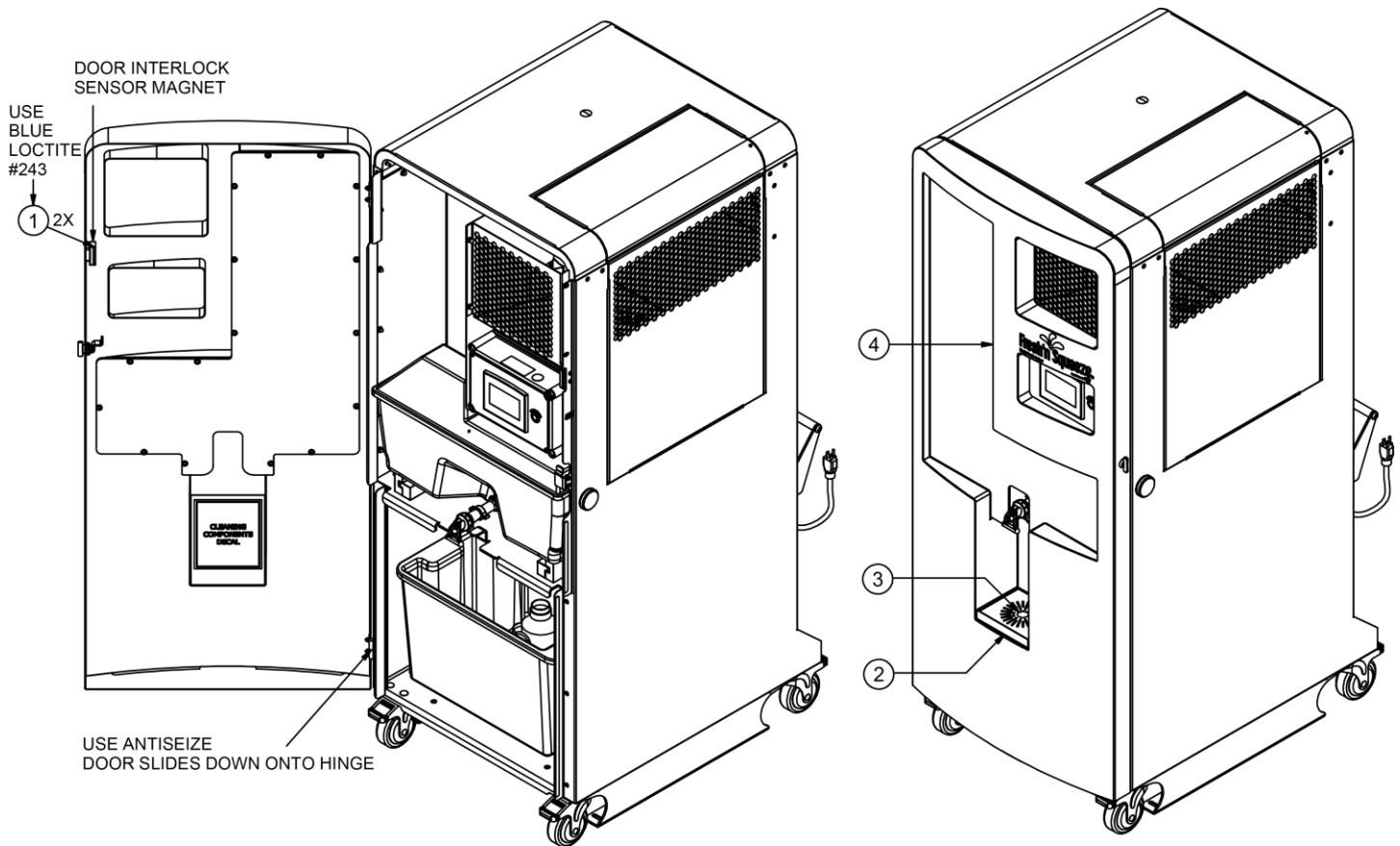


NOTES:
INSTALL SPLASH SHIELD, THEN RESERVOIR, THEN OTHER COMPONENTS.

Figure 38. Splash Shield, Waste Bin, Tools and Accessories

28. Door, Latches and Hinges

Item	Qty	Part Number	Description
1	2	004385176	Screw, Span, Pan, 8-32 Threaded, 5/8" Lg, 18-8SS
2	1	06010146	Drip Tray Weldment
3	1	06010147	Drip Tray Cover
4	1	06010315	Door Assembly



NOTES:

1. ADJUST LATCH FOR LOCK SUCH THAT WHEN DOOR IS SHUT, LIGHT OR NO PRESSURE ALLOWS LATCH TO CLOSE AND DOES NOT RATTLE WHEN CLOSED.
2. FOLLOW LABELED THREAD COATING AND TORQUE INSTRUCTIONS.
3. COAT DRIVE CHAIN WITH GREASE.
4. CHECK CART BOLTS, WIRE ROUTING BOLTS AND OTHER BOLTED CONNECTIONS AND ENSURE THEY ARE TIGHT.

Figure 39. Door, Latches and Hinges

Electrical Drawings

Electrical drawings in this chapter provide a list of part numbers for replaceable parts available for the 2nd Generation Multi-Fruit Juicer. The following parts list/drawings are provided:

Parts List / Parts Drawing	Page
29. Drive, Motor Wiring, Single Phase, 120V/230V, 60 Hz	58
30. Drive, Motor Wiring, 3-Phase, 230V/460V, 50 Hz/60 Hz	59
31. VFD Enclosure Assembly	60
32. Electrical Panel Assembly	61
Wire Table, Electrical Panel	64
Wiring Schematic, Electrical Panel	66
33. Power Cable Assembly	67
34. TDC and Hopper Interlock Cord Assembly	68
35. Float and Door Interlock Cord Assembly	69
36. VFD-Motor Power Cord Assembly	70
37. HMI-VFD Signal Cord Assembly	71
38. HMI-VFD Cord Assembly	72

29. Drive, Motor Wiring, Single Phase, 120V/230V, 60 Hz

Item	Qty	Part Number	Description
1	1	06010313	VFD Cover Panel
2	1	06010298	Motor Cord Assembly
3	1	007146010	Nut, 1/2-14 NPT, Tru-Seal
4	1	005617231	Gear Motor, Worm, 1.5 HP, 1 PH, 115V/230V, 60HZ, 1:25 Gear, 1.25 Shaft
5	4	004385174	Screw, Round, Drilled Spanner, Extra Wide, 8-32 X 1/2", SS

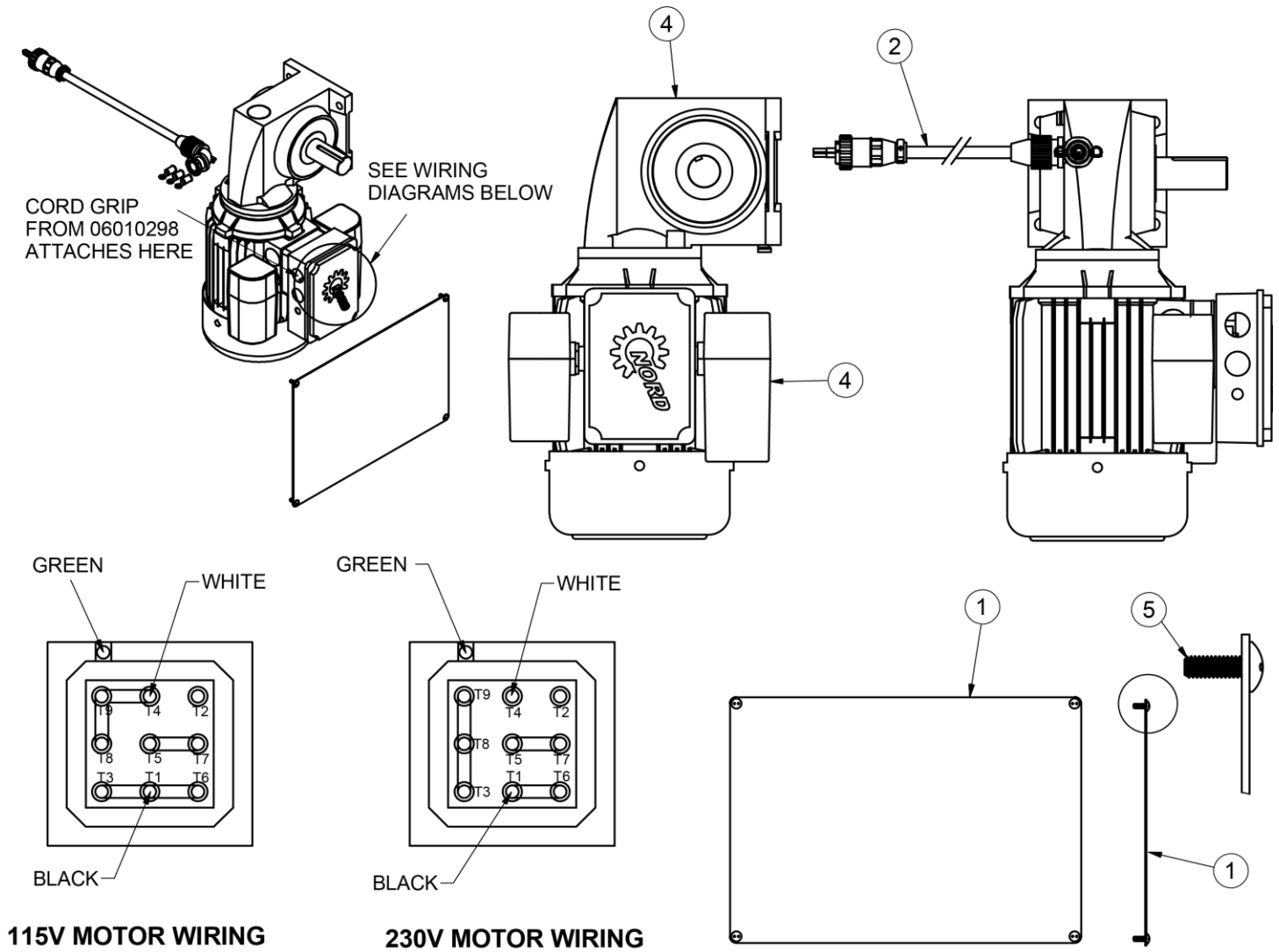


Figure 40. Drive, Motor Wiring, Single Phase, 120V/230V, 60 Hz

30. Drive, Motor Wiring, 3-Phase, 230V/460V, 50 Hz/60 Hz

Item	Qty	Part Number	Description
1	1	005617345	Gear Motor, Worm, 1.5 HP, 3 PH, 230V/460V, 50,Hz/60Hz, 1:25 Gear, 1.25 Shaft
2	1	06010366	VFD Enclosure Assembly

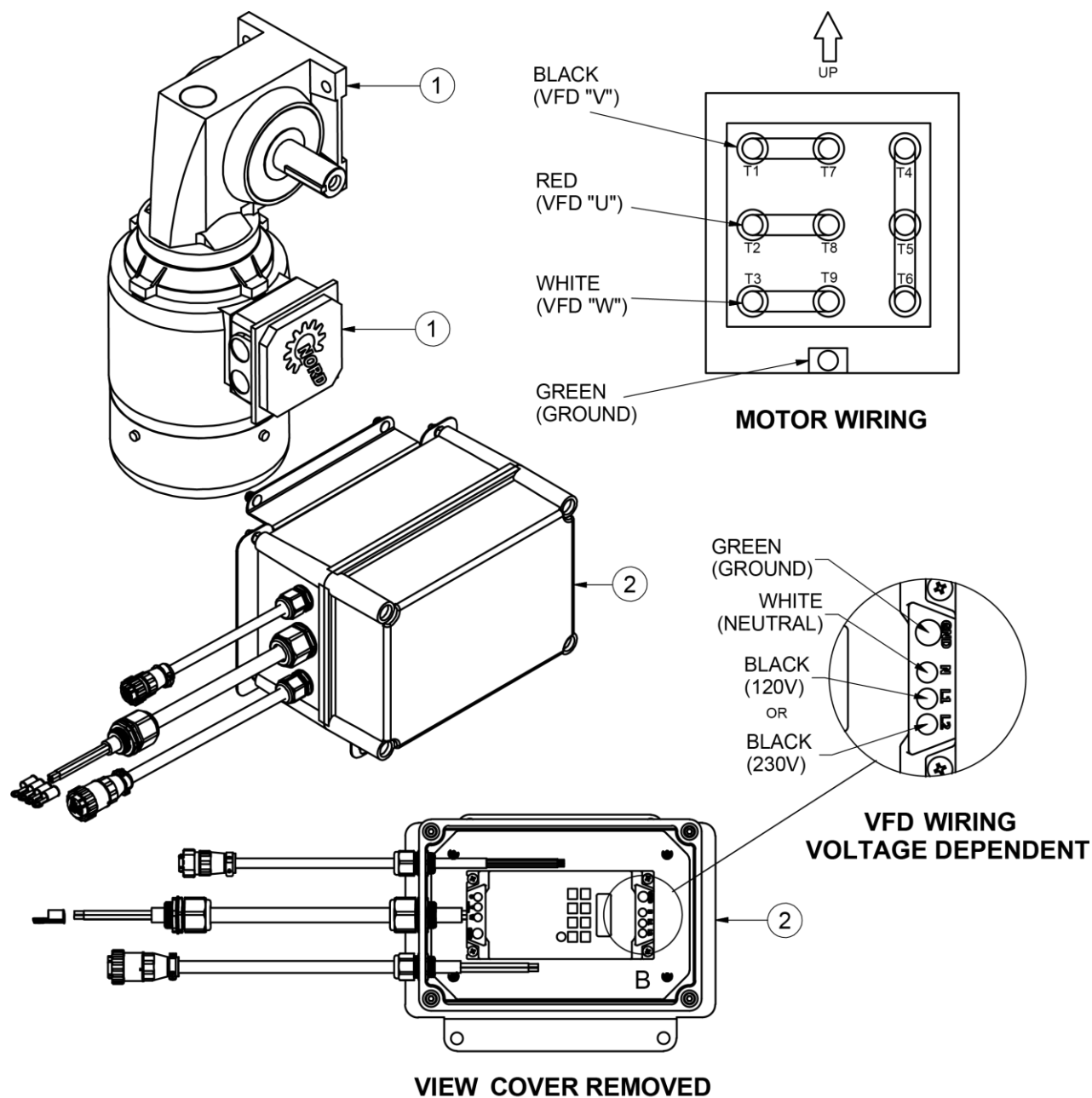


Figure 41. Drive, Motor Wiring, 3-Phase, 230V/460V, 50 Hz/60 Hz

31. VFD Enclosure Assembly

Item	Qty	Part Number	Description
1	1	06010360	Enclosure, VFD, Add Holes
2	1	06010358	Back Panel, VFD
3	1	06010317	HMI-VFD Power Cord
4	1	06010316	VFD-Motor Power Cord
5	1	06010314	HMI-VFD Signal Cord
6	1	06010311	Rear Enclosure Bracket
7	1	006280536	VFD, 115/230V, 50Hz/60Hz, 1.5 HP-2 HP, UL
8	12	004816052	Washer, Plain, #10, SS
9	4	004401023	Screw, Phillips head, Extra Wide, 8-32" Threaded, 2/8" Lg
10	4	004356062	Screw, Cap Socket, 1/4-20 X 1: Lg, SS
11	8	004156042	Nut, Hex, S/L, Thin, 10-24, 304SS
12	4	004111032	Nut, Hex, 1/4-20, SS
13	4	004011051	Bolt, Carriage, 10-24 X 1/2" Lg, Square Neck, Full Thread, SS

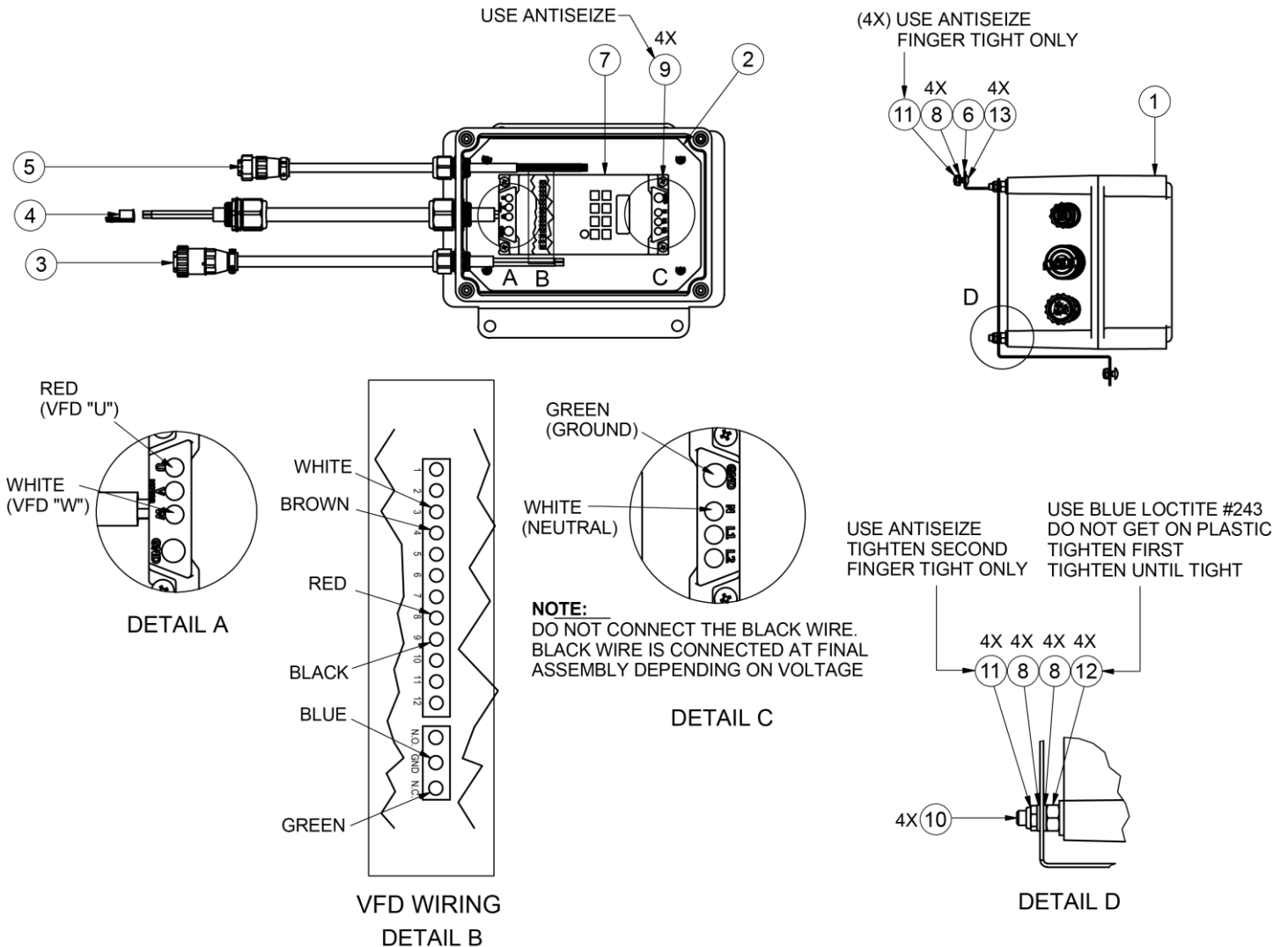


Figure 42. VFD Enclosure Assembly

32. Electrical Panel Assembly

<u>Item</u>	<u>Qty</u>	<u>Part Number</u>	<u>Description</u>
1	3	003435022	Gasket, Flange, 0.862", Shell Size 13, Neoprene
2	2	003435023	Gasket, Flange, 1.1", Shell Size 17, Neoprene
3	20	004260007	Rivet, Blind, 1/8" Diameter X 7/16" Lg, SS
4	4	004397137	Screw, Machine, Round, 10-24 X 3/8" Lg, 304SS
5	20	Purchased	Rivet Washer
6	10	006010046	Strip, Terminal, Type UK5N
7	1	006010047	Din Rail, Perforated, 1.5" 89 mm (3.5")
8	1	006010047	Din Rail, Perforated, 1.5" 137 mm (5.4")
9	1	006010048	Barrier, End, Type D-UK 4/10
10	2	006010049	Bar, Jumper, FB1 10-6, (Jumps 10 Terminals)
11	1	006020076	Circuit Breaker, On/Off, Metal, 28V
12	1	006070033	Contactor, 12-600CAV, 50-60 Hz, 12-220 VDC
13	1	006070100	Connector, Housing, 9-Pole, Female Push In, Nylon, 11A
14	1	006070101	Connector, Housing, 9-Pole, Male Push In, Nylon, 11A
15	1	006070102	Connector, Housing, 6-Pole, Female Push In, Nylon, 11A
16	1	006070103	Connector, Housing, 6-Pole, Male Push In, Nylon, 11A
17	19	006070104	Connector, Push In, Female, 13.5A 20AWG-14AWG, Brass
18	19	006070105	Connector, Push In, Male, 13.5A 20AWG-14AWG, Brass
19	1	006070106	Connector, Male, Signal/Power, Push-In, 4-Pole, 14A
20	1	006070107	Connector, Female, Signal/Power, Push-In, 4-Pole, 14A
21	27	006080138	Connector Pin, Male, 20-24 GA, 13A, Plated Brass
22	1	006090376	Enclosure, Polycarbonate, 10.9" X 7.4" X 7.1", Insulated, Sealed
23	1	006160071	Relay, Overload, 12-16A
24	1	006160110	Relay, Din Rail Mount, 24V, 12mA, 6A Rating, 400 VAC
25	1	006160136	Safety Relay, Din Rail Mount, 24 VAC, 24 VDC
26	2	006210482	Terminal Block, Double Level, 26 AWG-12 AWG, 20A, 300V
27	2	006220044	Terminal, Q-Disc, Flame Retardant, 90 Degree, 12-10 AWG, Yellow
28	2	006221106	Terminal, Ground, Type USLKG25
29	2	006221179	Terminal Block, End Cover, Gray Plastic
30	3	006221180	End Stop, Din Rail 1, 3, Gray, IP20
31	1	006260041	Wire, Stranded, 22AWG, 300V, AC, Tin Plated, Black5
32	1	006260042	Wire, Stranded, 22AWG, 300V, AC, Tin Plated, Red
33	1	006260043	Wire, Stranded, 22AWG, 300V, AC, Tin Plated, Blue
34	1	006260044	Wire, Stranded, 22AWG, 300V, AC, Tin Plated, Brown
35	1	006260045	Wire, Stranded, 12AWG, 300V, AC, Tin Plated, Black
36	1	006260047	Wire, Stranded, 12AWG, 300V, AC, Tin Plated, Green
37	1	006260048	Wire, Stranded, 12AWG, 300V, AC, Tin Plated, White
38	3	006270199	Connector, Housing, 9-Pin, Male
39	1	006280578	Power Supply, 100-240 VAC, 50-60 Hz, 60W
40	1	006280643	Touch Screen, PLC HMI, 4.3" Screen, 24VDC
41	1	006280822	Module, Serial Port, Comm
42	3	007660098	Seal, Peripheral, SZ 13
43	2	007660099	Seal, Peripheral, SZ 17
44	6	009097007	Cable Holder, ADH, Plastic, 1/4" Diameter, 5/8" X 3/8" X 3/4"
45	1	06010253	Control Panel Gasket
46	1	06010259	Bezel, Control Panel
47	1	06010271	Back Panel
48	2	06010319	3-Conductor Receptacle
49	1	Purchased	Safety Label, Read Operators Manual
50	1	Purchased	Safety Label, Danger Risk Of Electrical Shock

NOTES:

1. SEE SHEET 2 FOR PANEL CUT OUTS.
2. USE LOCTITE BLUE - 242 ON SCREWS AS REQUIRED.
3. DIN RAILS: MUST USE AT LEAST TWO SCREWS PER DIN RAIL.
EITHER SHOWN OR HIDDEN THREADED HOLES WILL BE USED BASED ON THE PIECE OF DIN RAIL CUT.
4. MOUNTING PANEL 06010271 IS HELD ON USING THE (4) SCREWS THAT ARE INCLUDED WITH THE FIBOX ENCLOSURE
5. USE SILICON 732 TO SEAL RIVETED CONNECTIONS WHEN COMPLETED.
ENSURE WATER TIGHT RIVETED CONNECTIONS!
SEAL RIVETS BY INSERTING SILICON NOZZLE INTO RIVET CAVITY AND FILL TO ENSURE COMPLETE WATERTIGHT SEAL.
6. USE WIRE HOLDERS 009097007 WHERE NECESSARY TO ROUTE WIRING.
LOCATIONS DISPLAYED ARE FOR REFERENCE.
7. SEPERATE HIGH AND LOW VOLTAGES.
ROUTE HIGH VOLTAGE WIRES TOWARDS THE TOP OF THE ENCLOSURE WHERE POSSIBLE.
8. ENSURE REAR RECEPTACLES AND PLUG GASKETS ARE WATER-TIGHT.
USE SILICON IF NECESSARY.
9. ALL ENCLOSURE BASE TO LID CONNECTORS SHOULD HAVE 8"-12" LEAD.

SEE FIGURE 42, WIRING SCHEMATIC FOR WIRING DIAGRAM.

SEE FIGURE 43, WIRE TABLE FOR WIRING DETAIL.

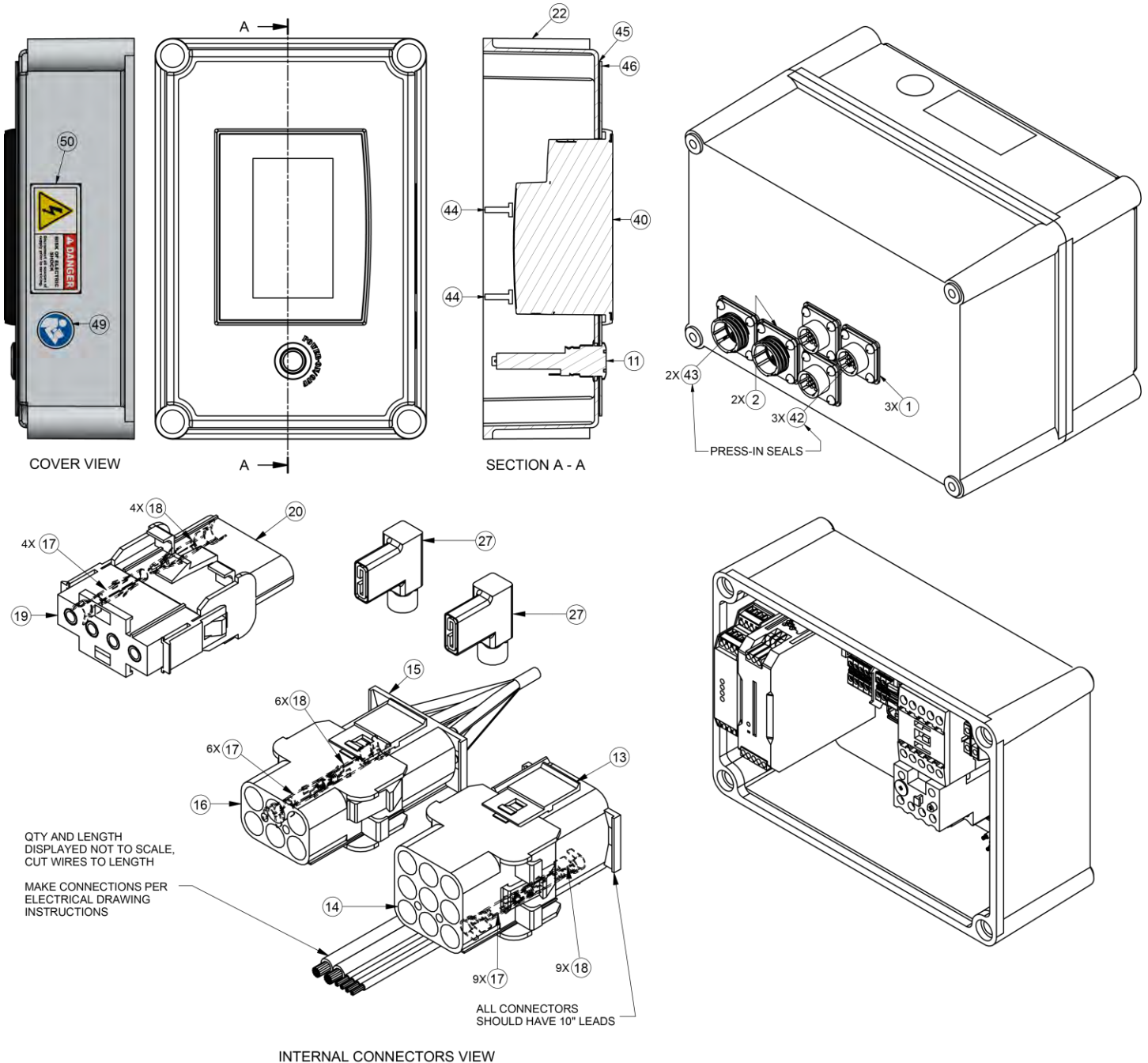
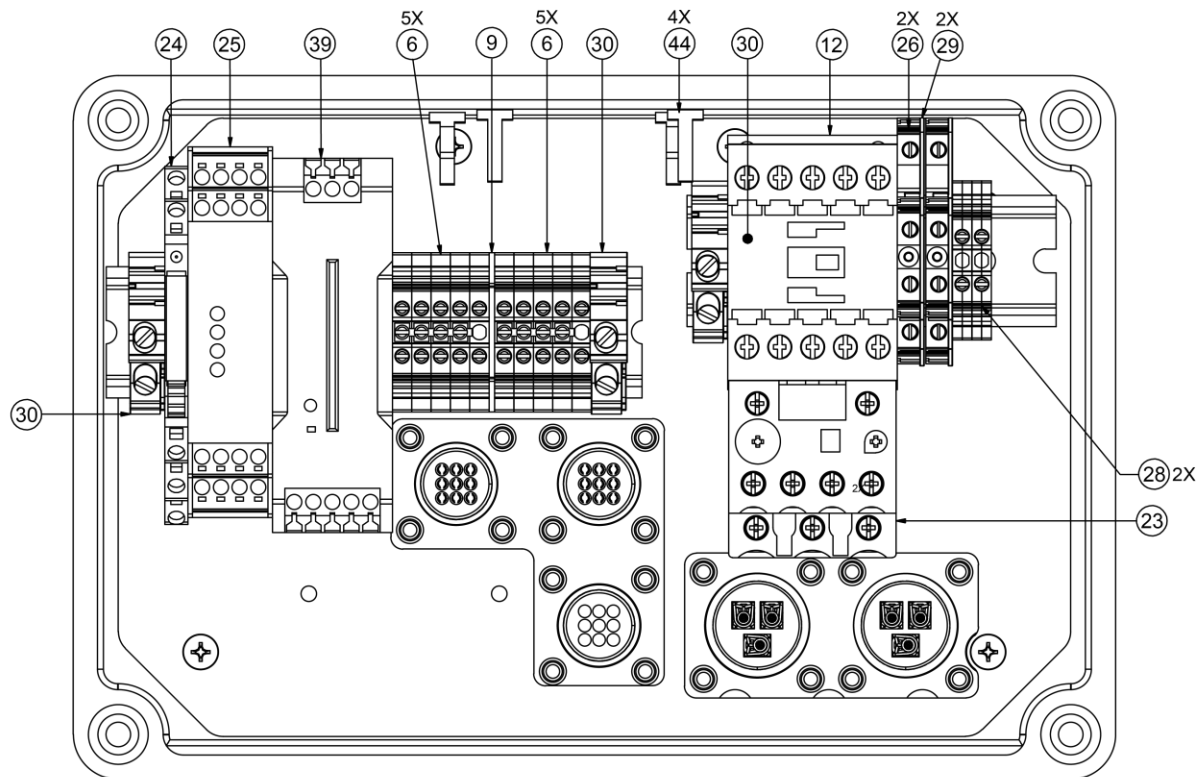
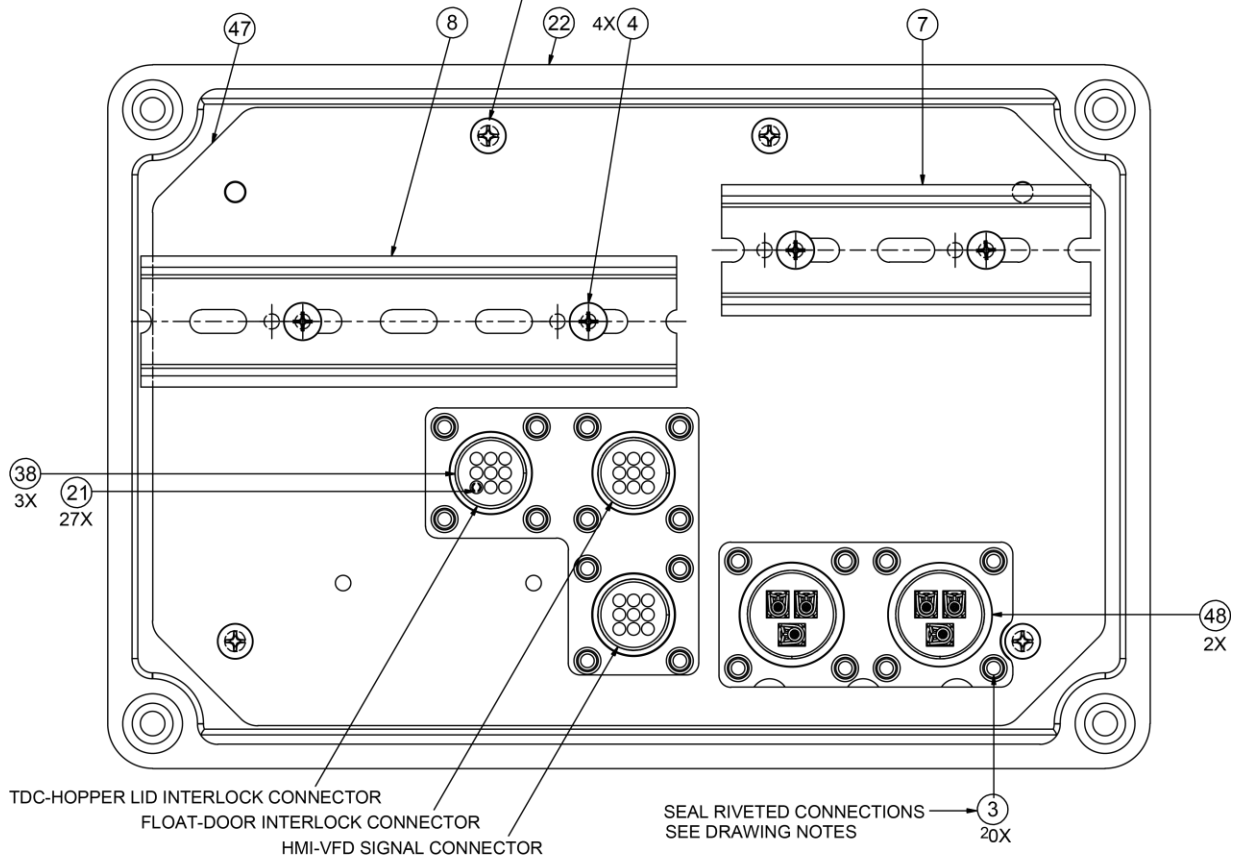


Figure 43. Electrical Panel Assembly (Sheet 1 of 2)



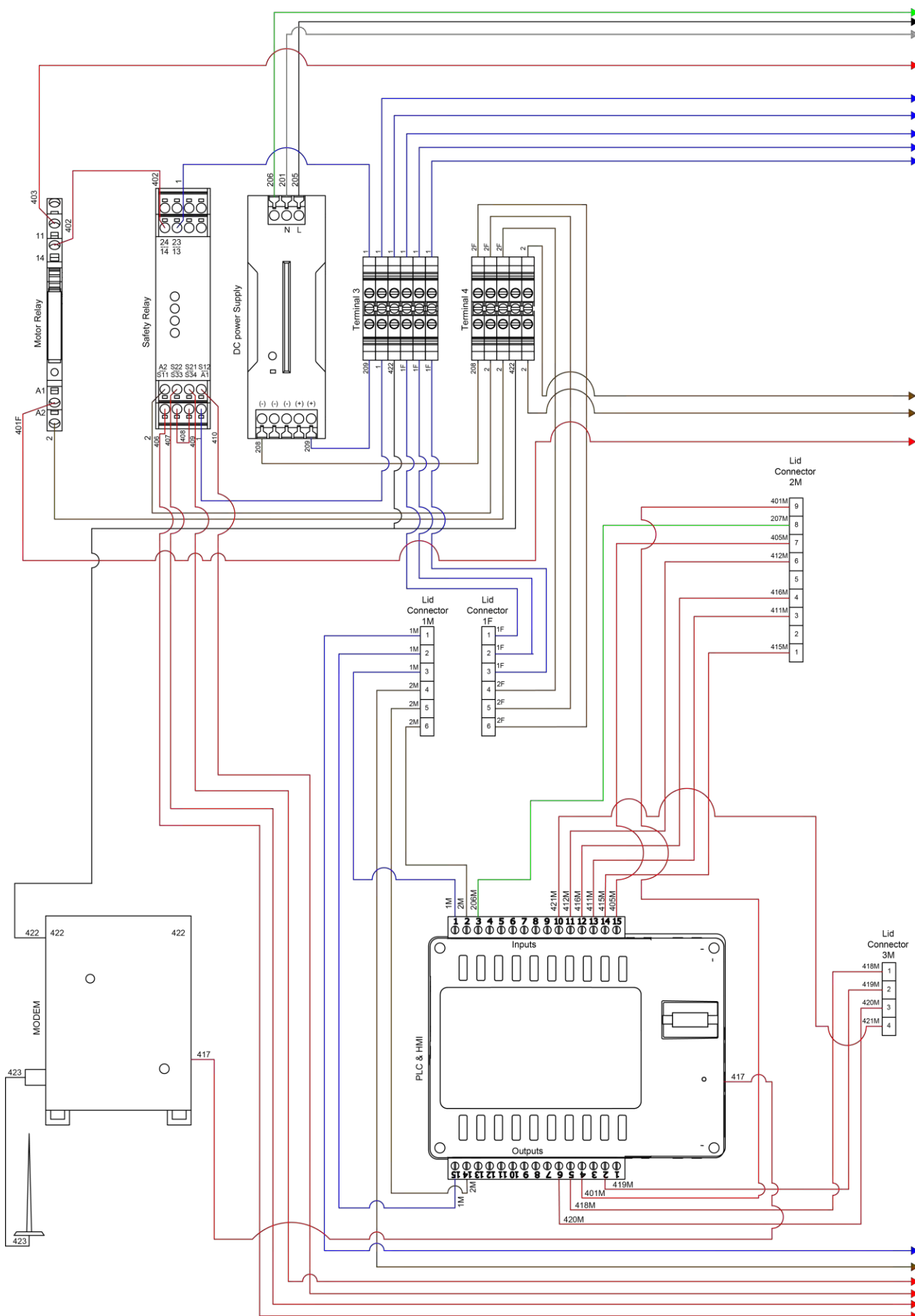
ELECTRONICS COMPONENTS VIEW

USE (4) SCREWS THAT COME WITH 006090306 TO SECURE BACK PANEL



WITHOUT ELECTRONIC COMPONENTS VIEW

Figure 43. Electrical Panel Assembly (Sheet 2 of 2)



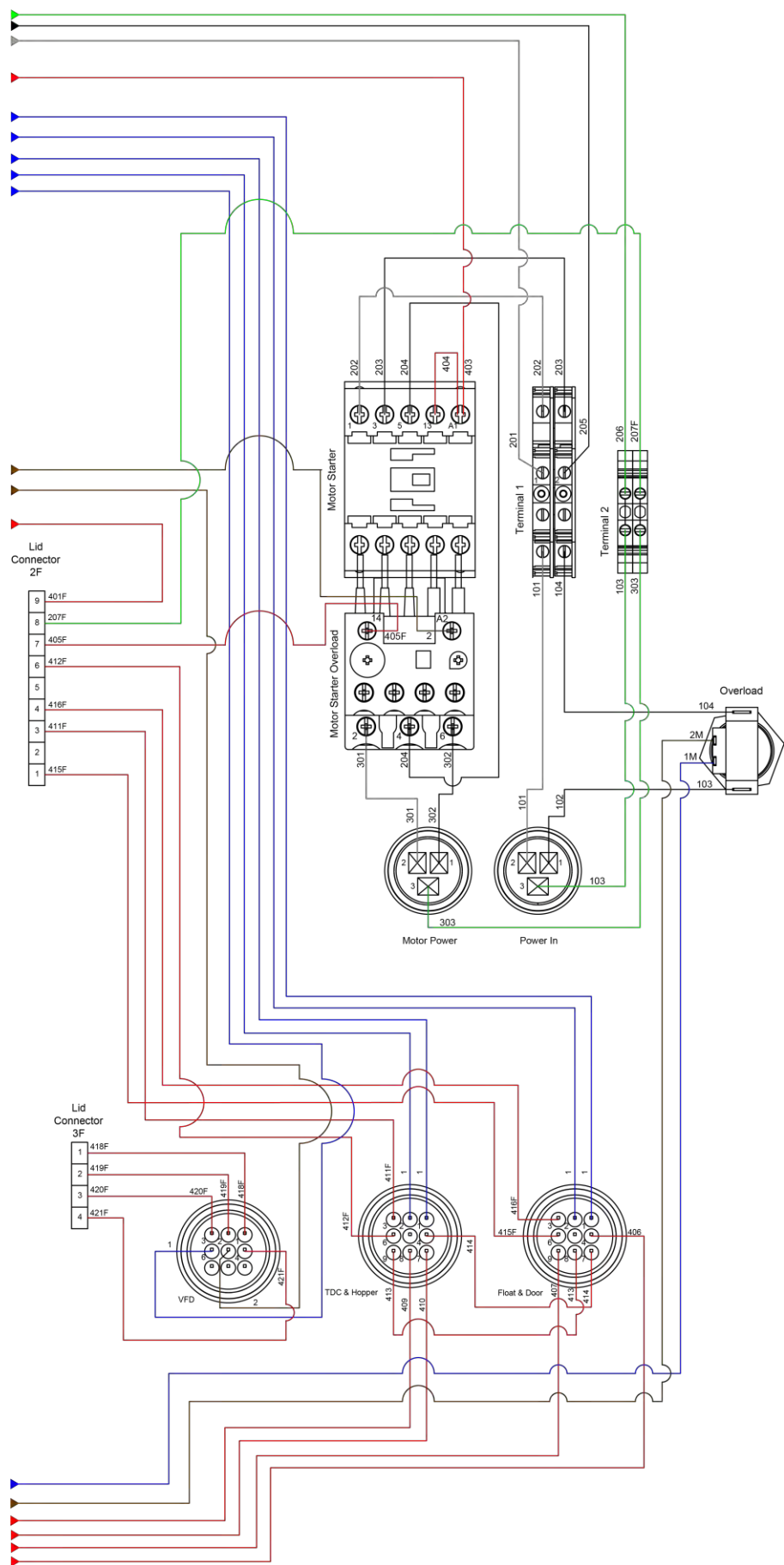


Figure 44. Wiring Schematic, Electrical Panel (Sheet 2 of 2)



Wire Number	Origination Point	End Point	Wire Color	Voltage	Description
1	T3	* SR-13; SR-A1; TH-1; TH-2; FD-1; FD-2	Blue	24	Positive leg 24V power
1F	T3	LC1F	Blue	24	Positive leg 24V power going to the lid connector
1M	LC1M	* PLC-I+V (1); PLC-O+VO (15); Overload-light	Blue	24	Positive leg 24V power on the lid
2	T4	* MR-A2; SR-A2; MSO-A2	Brown	24	Negative leg 24V power
2F	T4	LC1F	Brown	24	Negative leg 24V power to connector for lid
2M	LC1M	* PLC-I0V (2); PLC-O0V (14); Overload-light	Brown	24	Negative leg 24V power on the lid
101	PI-2	T1	White	120	Neutral Line coming into the panel
102	PI-1	Overload	Black	120	Incoming hot line going to overload
103	PI-3	T2	Green	G	Ground coming into the panel
104	Overload	T1	Black	120	Hot line going from overload to panel
201	T1	PS-N	White	120	Neutral line for the power supply
202	T1	MS-1	White	120	Neutral line for the Motor Starter
203	T1	MS-3	Black	120	Hot line for the Motor Starter
204	MSO-4	MS-5	Black	120	Jumper to output single phase power
205	T1	PS-L	Black	120	Hot line for the 24V power supply
206	T2	PS-G	Green	G	Ground for the 24V power supply
207F	T2	LC2F - 8	Green	G	Ground for PLC going to lid connector
207M	LC2M-8	PLC-I6 (3)	Green	G	Ground for PLC from lid connector
208	PS-(-)	T4	Brown	24	Negative supply for 24V(-) terminal block
209	PS-(+)	T3	Blue	24	Positive supply for 24V(+) terminal block
301	MSO-2	MP-2	White	120	Neutral line going to the motor
302	MSO-6	MP-1	Black	120	Hot line going out to the motor
303	T2	MP-3	Green	G	Ground going out to the motor
401F	MR-A1	LC2F--9	Red	24	Box side signal wire for relay controlling starter
401M	LC2M-9	PLC-O0 (4)	Red	24	Lid side signal wire for relay controlling starter
402	SR-14	MR-14	Red	24	Part of Motor Starter control loop
403	MR-11	MS-A1	Red	24	Part of Motor Starter control loop
404	MS-A1	MS-13	Red	24	Part of Motor Starter control loop
405F	MSO-14	LC2F-7	Red	24	Box side signal for if Starter is activated
405M	LC2M-7	PLC-I0 (15)	Red	24	Lid side signal wire for if starter is activated
406	SR-S11	FD-4	Red	24	Part of safety circuit
407	SR-S22	FD-9	Red	24	Part of safety circuit
408	SR-S33	SR-S34	Red	24	Part of safety circuit
409	SR-S21	TH-8	Red	24	Part of safety circuit
410	SR-S12	TH-7	Red	24	Part of safety circuit
411F	TH-3	LC2F-3	Red	24	TDC sensor incoming wire to lid connector
411M	LC2M-3	PLC-I2 (13)	Red	24	TDC sensor lid connector to PLC
412F	TH-6	LC2F-6	Red	24	Hopper safety switch to lid connector
412M	LC2M-6	PLC-I4 (12)	Red	24	Hopper safety switch from connector to PLC
413	TH-9	FD-8	Red	24	Jumper to put both safety switches in series
414	TH-4	FD-7	Red	24	Jumper to put both safety switches in series
415F	FD-6	LC2F-1	Red	24	Door safety switch to lid connector
415M	LC2M-1	PLC-I1 (14)	Red	24	Door safety signal from connector to PLC
416F	FD-3	LC2F-4	Red	24	Tank float sensor to lid connector
416M	LC2M-4	PLC-I3 (12)	Red	24	Float sensor from connector to PLC
417	PLC	Modem	Gray	24	Communication cable with the Modem
418F	VFD-1	LC3F-1	Red	24	VFD start/stop to lid connector
418M	LC3M-1	PLC-O1 (5)	Red	24	VFD start/stop from PLC to connector
419F	VFD-2	LC3F-2	Red	24	VFD speed signal to lid connector
419M	LC3M-2	PLC-A0 (2)	Red	24	VFD speed signal from PLC to connector
420F	VFD-3	LC3F-3	Red	24	VFD reset signal to lid connector
420M	LC3M-3	PLC-O2 (6)	Red	24	VFD reset signal from PLC to connector
421F	VFD-4	LC3F-4	Red	24	VFD fault detection to lid connector
421M	LC3M-4	PLC-I5 (10)	Red	24	VFD fault detection from connector to PLC
422	MDM	T3, T4	Gray	24	Modem power cable (orange & orange-white are +; blue is -)
423	MDM	Attached-Antenna	Black	24	Modem antenna (Antenna integrated into cable)

Guide Term	Description	Guide Term	Description
FD	Float & Door sensor connections	MSO	Motor Starter Overload
LC1F	Lid connector 1 FEMALE (BOX SIDE)	PI	Power Input
LC1M	Lid connector 1 MALE (LID SIDE)	PLC	Program Logic Controller (integrated HMI)
LC2F	Lid connector 2 FEMALE (BOX SIDE)	SR	Safety Relay
LC2M	Lid connector 2 MALE (LID SIDE)	T1	Terminal 1
LC3F	Lid connector 3 FEMALE (BOX SIDE)	T2	Terminal 2 - Ground bus
LC3M	Lid connector 3 MALE (LID SIDE)	T3	Terminal 3 - 24V (+) bus
MDM	Modem	T4	Terminal 4 - 24V (-) bus
MP	Motor Power	TH	TDC & Hopper sensor connections
MR	Motor Relay	VFD	VFD connection point
MS	Motor Starter		

Figure 45. Wire Table, Electrical Panel

33. Power Cable Assembly

Item	Qty	Part Number	Description
1	1	006080071	Cord, Power, w/ 15 Amp Plug, 10' Lg, Black
2	1	006090372	Connector Plug, Size 17-3, CPC Series 3
3	3	006220055	Pin Contact 16, 14-12 Tin Type
4	1	006220056	CPC Seal Kit Assembly, Size 17, 3-Position
5	1	006060044	Connector, Cord Grip, 90 Degree, Cord Range .375"-.570"
6	1	006270316	Cable Clamp 17, Black Nylon
7	1	007146010	Nut, 1/2-14 NPT, Tru-Seal0

NOTES:

1. LENGTH FROM END OF MAIN CONNECTOR TO END OF CORD GRIP: 51".
CORD GRIP TO WALL PLUG LENGTH: ABOUT 69".
2. THREAD NUT ONTO CORD GRIP, THEN SLIDE WIRE THROUGH BEFORE MAKING CONNECTIONS!
3. REMOVE 1-1/4" OF BLACK HOUSING FROM END WHERE CONNECTOR WILL BE INSTALLED TO EXPOSE WIRES.

WIRE DETAIL CHART			
WIRE HOUSING DIAM	WIRES FROM	WIRES TO	CUT TO LENGTH
~0.45"	3-PIN CONNECTOR ASSY	NEMA 5-15 PLUG	USE ORIG. LG (10')

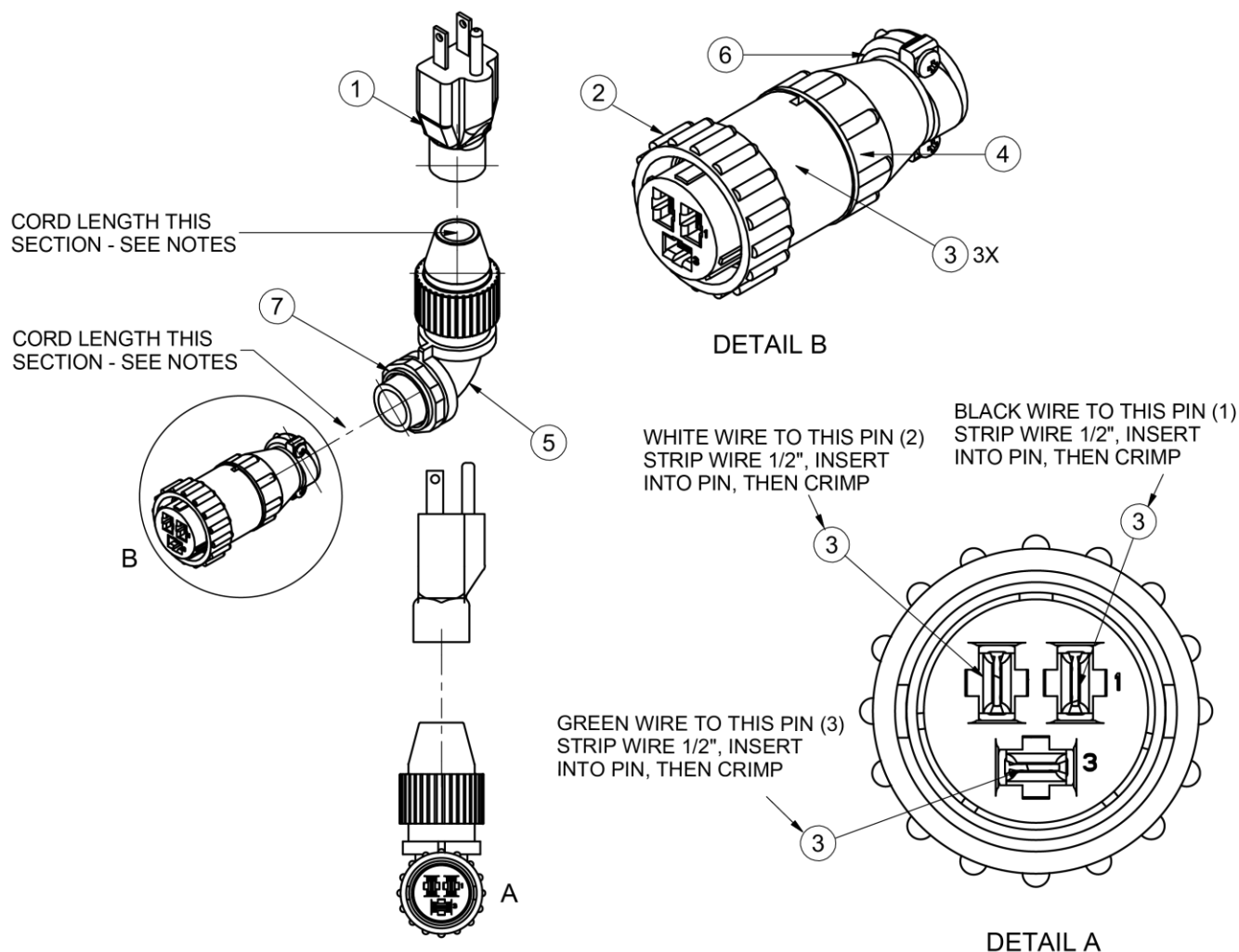


Figure 46. Power Cable Assembly

34. TDC and Hopper Interlock Cord Assembly

Item	Qty	Part Number	Description
1	1	006200018	Safety Switch, Interlock, Magnetic
2	9	006220057	Pin Connect, 24-20 Tin Socket Reel
3	2	006220059	Pin, Contact, Male, 16-20 AWG
4	1	006270315	Cable Clamp 13
5	1	006270320	Plug, 9-Position, Shell Size 13
6	1	007660081	CPC Seal Kit Assembly, 9-Position
7	1	006270322	Receptacle, Female, 2 Pin, Grey
8	1	006270324	Wedgelock, Female, 2 Pin, Grey
9	1	006080074	Cable, 20 GA, 2-Conductor, Shielded, No Substitutions

WIRE DETAIL CHART			
WIRE HOUSING DIAM	WIRES FROM	WIRES TO	CUT TO LENGTH
~0.25"	HOPPER INTERLOCK SENSOR	9-PIN CONNECTOR ASSY	89"
~0.21"	TDC SENSOR	9-PIN CONNECTOR ASSY	92"

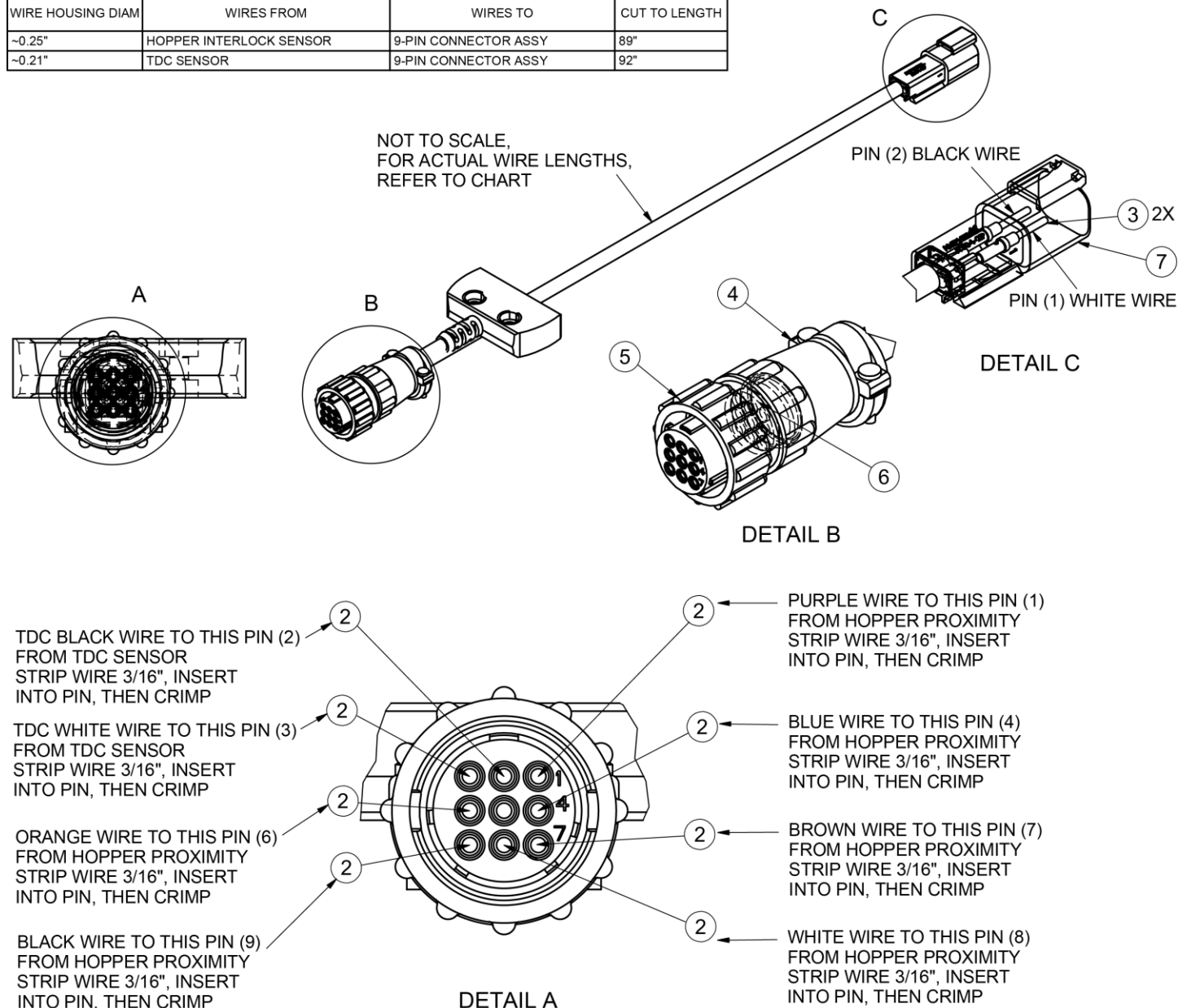


Figure 47. TDC and Hopper Interlock Cord Assembly

35. Float and Door Interlock Cord Assembly

Item	Qty	Part Number	Description
1	1	006200018	Safety Switch, Interlock, Magnetic
2	9	006220057	Pin Connect, 24-20 Tin Socket Reel
3	2	006220059	Pin, Contact, Male, 16-20 AWG
4	1	006270315	Cable Clamp 13
5	1	006270320	Plug, 9-Position, Shell Size 13
6	1	007660081	CPC Seal Kit Assembly, 9-Position
7	1	006270322	Receptacle, Female, 2 Pin, Grey
8	1	006270324	Wedgelock, Female, 2 Pin, Grey
9	1	006080074	Cable, 20 GA, 2-Conductor, Shielded, No Substitutions

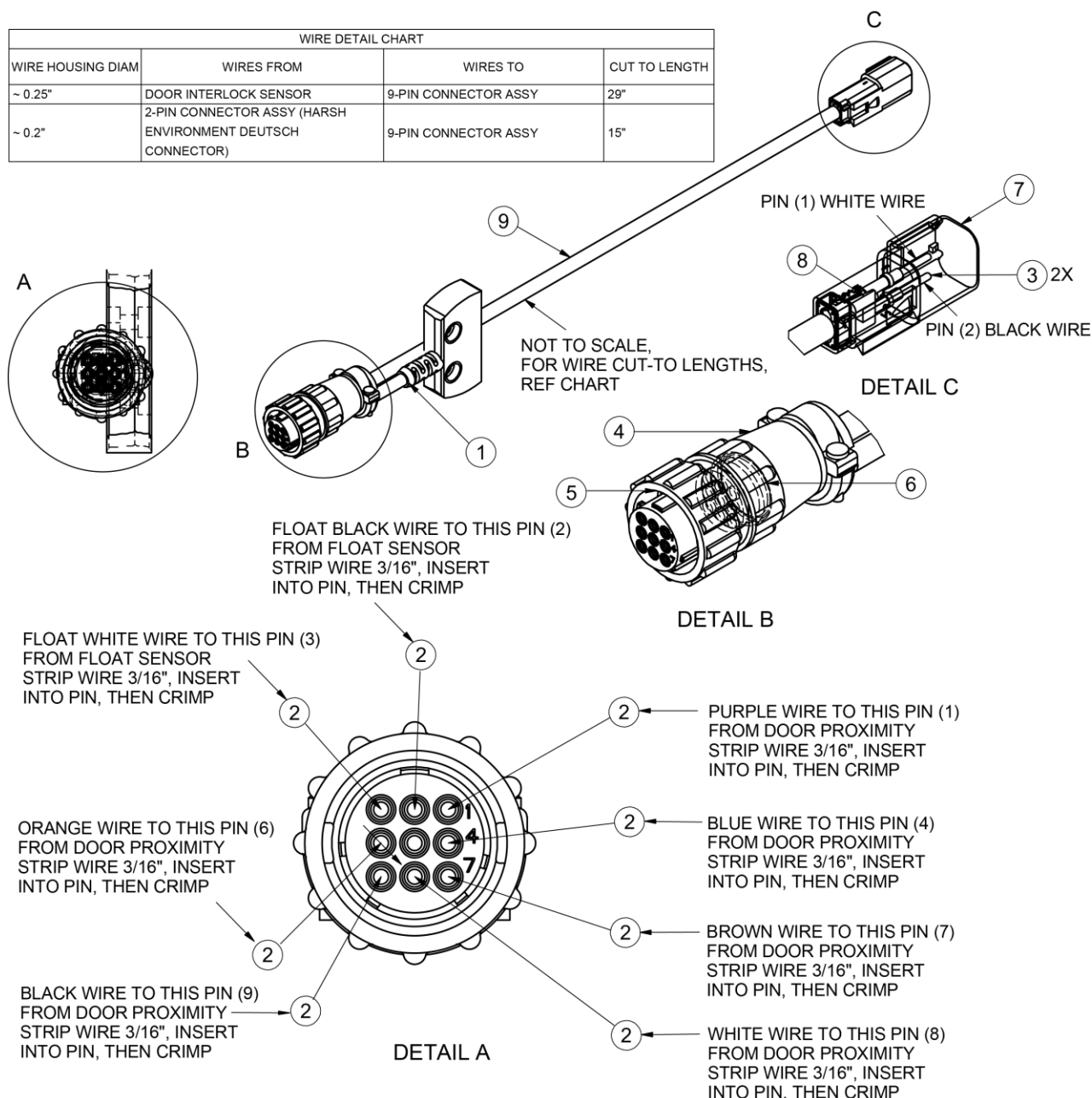


Figure 48. Float and Door Interlock Cord Assembly

36. VFD-Motor Power Cord Assembly

Item	Qty	Part Number	Description
1	1	006080026	Cord, Type SO 4-Conductor, 14 GA, 0.57" OD
2	4	006220023	Terminal, Ring End, #16-14 Wire, #10 Stud, Insulated
3	2	Purchased	Compact Liquid Tight Cord Grip, 3/4" NPT, 0.51"-0.71"

NOTES:

1. CORD CUT LENGTH MEASURED ON BASE CORD BEFORE ADDING CORD GRIPS, STRIPPING ENDS, ETC..
2. ALL CORD LENGTHS ARE NOT TO SCALE, INCLUDING HOUSINGS, WIRES, CONDUCTORS, JACKETS.
3. REFERENCE THE WIRE DETAIL CHART AND DRAWING CALLOUTS FOR TOTAL CORD LENGTH AND LENGTHS TO STRIP HOUSINGS AND WIRES.

WIRE DETAIL CHART			
WIRE HOUSING DIAM	WIRES FROM	WIRES TO	CUT TO LENGTH
~0.58"	VFD	3 PHASE MOTOR	32"

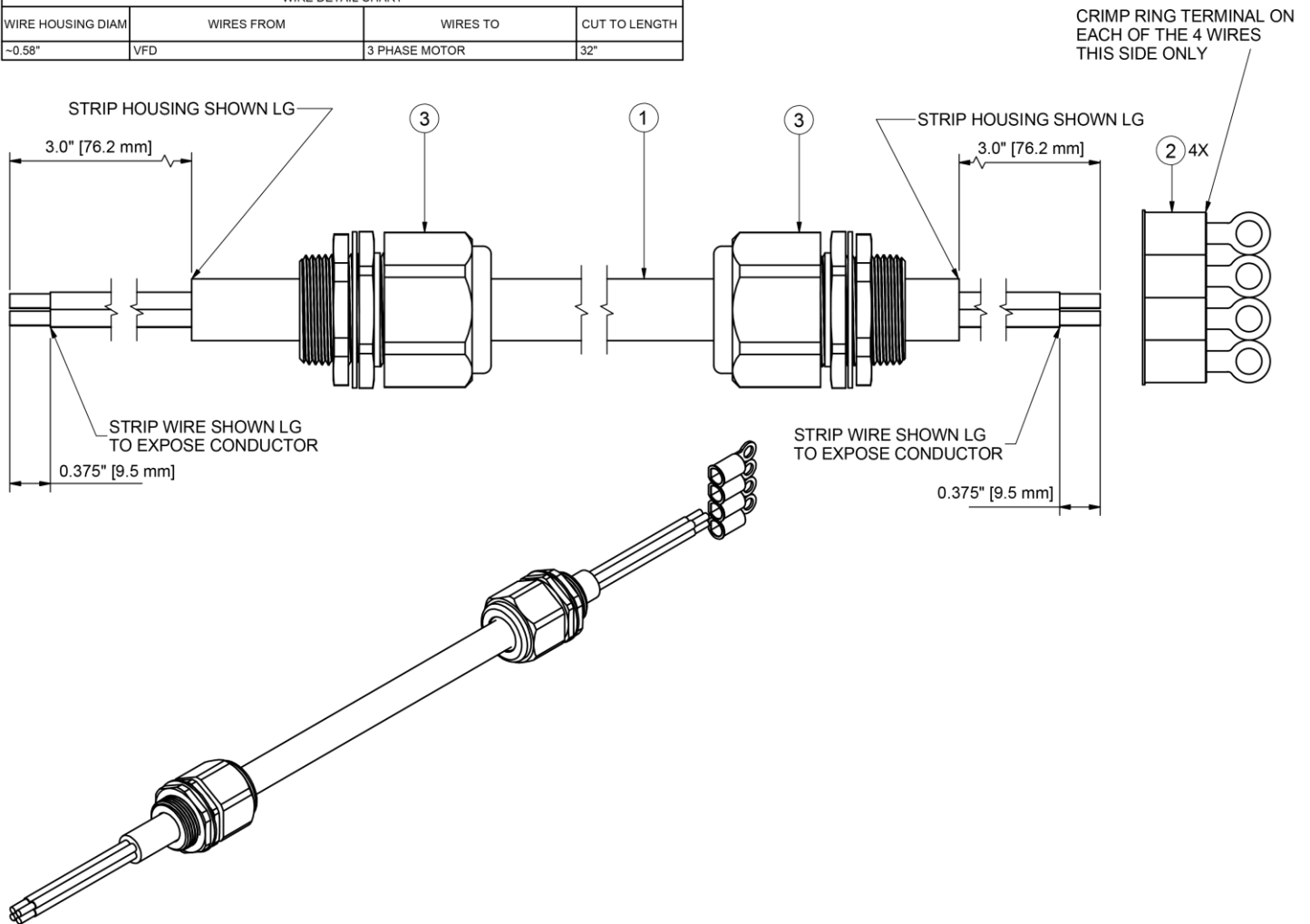


Figure 49. VFD-Motor Power Cord Assembly

37. HMI-VFD Signal Cord Assembly

Item	Qty	Part Number	Description
1	1	Purchased	Compact Liquid Tight Cord Grip
2	1	007660081	CPC Seal Kit Assembly, 9 Position
3	1	006270320	Plug, 9 Position, Shell Size 13
4	1	006270315	Cable Clamp 13
5	9	006220057	Pin Connect, 24-20 Tin Socket Reel
6	1	006080139	Cable, 22 GA, 9 Conductor, Shielded, No Substitutions

NOTES:

1. CORD CUT LENGTH MEASURED ON BASE CORD BEFORE ADDING CORD GRIPS, STRIPPING ENDS, ETC.
2. ALL CORD LENGTHS ARE NOT TO SCALE, INCLUDING HOUSINGS, WIRES, CONDUCTORS, JACKETS.
3. REFERENCE THE WIRE DETAIL CHART AND DRAWING CALLOUTS FOR TOTAL CORD LENGTH AND LENGTHS TO STRIP HOUSINGS AND WIRES.

WIRE DETAIL CHART			
WIRE HOUSING DIAM	WIRES FROM	WIRES TO	CUT TO LENGTH
~ 0.28"	VFD COMMUNICATIONS TERMINALS	9-PIN CONNECTOR ASSY	78"

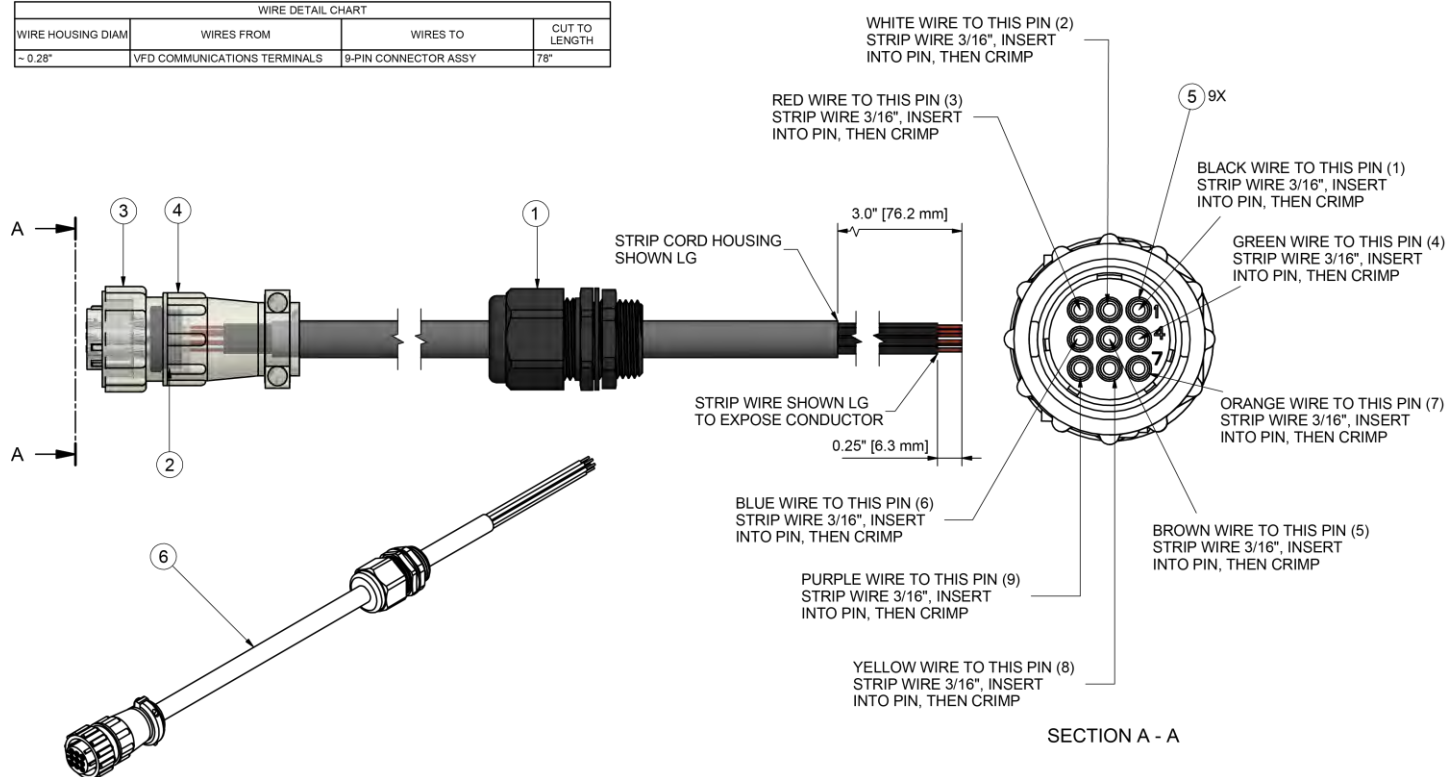


Figure 50. HMI-VFD Signal Cord Assembly

38. HMI-VFD Power Cord Assembly

Item	Qty	Part Number	Description
1	1	006080067	Cord, 12 GA Type SJO, 3 Conductor, 0.455" Diameter, UL & CSA Listed
2	1	006090372	Connector Plug, Size 17-3, CPC Series
3	3	006220055	Pin Contact 16, 14-12 Tin Type
4	1	006220056	CPC Seal Kit Assembly, Size 17, 3-Position
5	1	006270316	Cable Clamp 17, Black Nylon
6	1	Purchased	Compact Liquid Tight Cord Grip

1. CORD CUT LENGTH MEASURED ON BASE CORD BEFORE ADDING CORD GRIPS, STRIPPING ENDS, ETC.
2. ALL CORD LENGTHS ARE NOT TO SCALE, INCLUDING HOUSINGS, WIRES, CONDUCTORS, JACKETS.
3. REFERENCE THE WIRE DETAIL CHART AND DRAWING CALLOUTS FOR TOTAL CORD LENGTH AND LENGTHS TO STRIP HOUSINGS AND WIRES.

WIRE DETAIL CHART			
WIRE HOUSING DIAM	WIRES FROM	WIRES TO	CUT TO LENGTH
~0.43"	HMI	VFD	78"

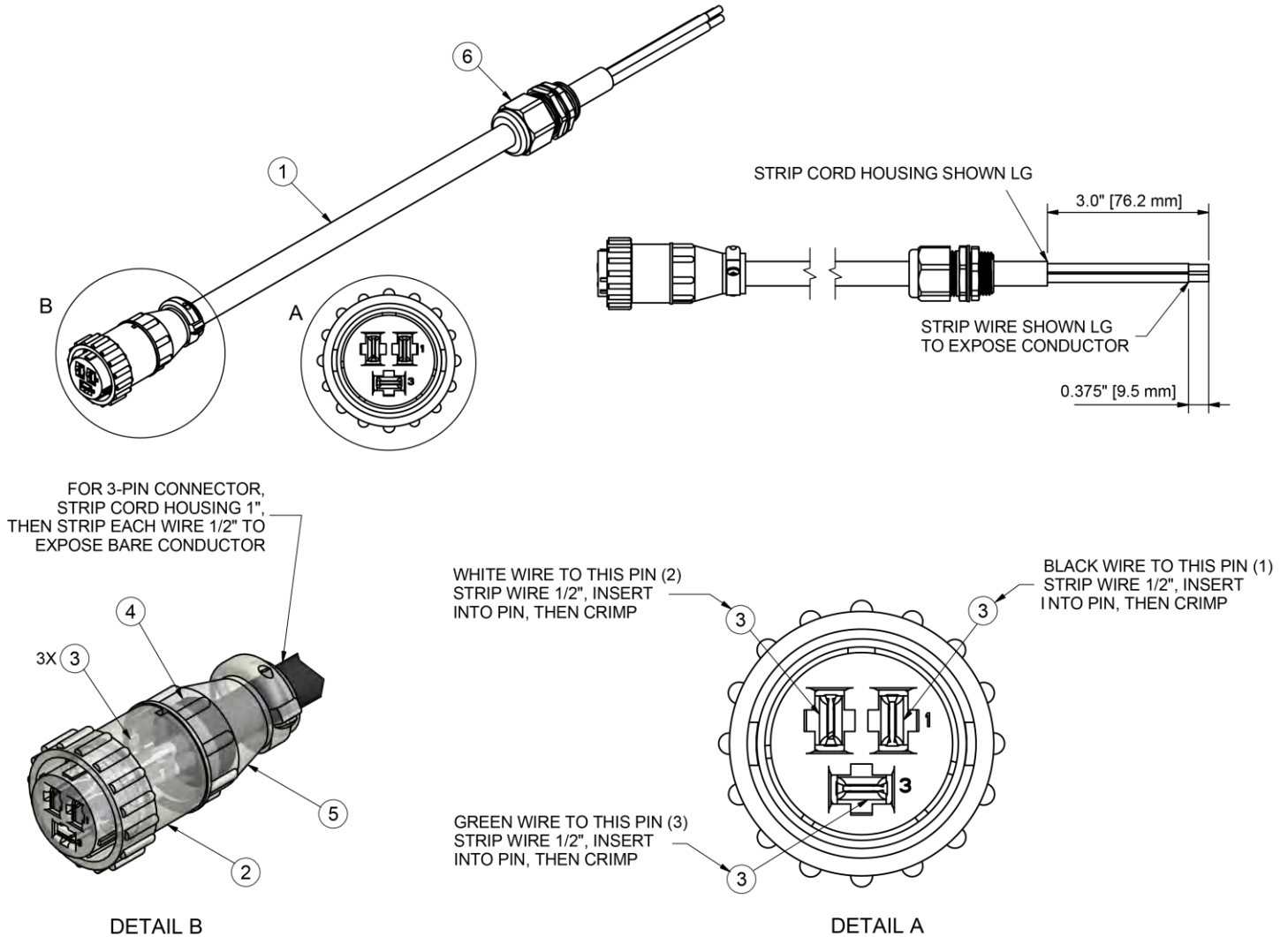


Figure 51. HMI-VFD Power Cord Assembly