

METE-R-MATIC® III
Model F12D



**OPERATOR'S MANUAL
MAINTENANCE MANUAL
PARTS LIST**

TURFCO®
METE-R-MATIC® III
Top Dresser
Model F12D

Product Number 85423

**U.S. Patents 4,438,873; 5,307,952; 5,307,965
Other Patents Pending**

Manual Number 657968 Rev B



DANGER - IF INCORRECTLY USED THIS MACHINE CAN CAUSE SEVERE INJURY. THOSE WHO USE AND MAINTAIN THIS MACHINE SHOULD BE TRAINED IN ITS PROPER USE, WARNED OF ITS DANGERS, AND SHOULD READ THE ENTIRE MANUAL BEFORE ATTEMPTING TO SET-UP, OPERATE OR SERVICE THE MACHINE.

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

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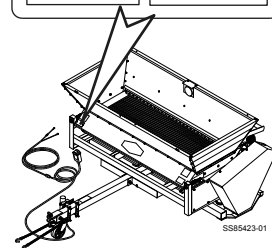
IMPORTANT: Record the information from the data plate of your Mete-R-Matic® III F12D Top Dresser. It will be necessary to furnish your Model Number, Product Number, and Serial Number when ordering parts.

Model Number **F12D**

Product Number **85423** Serial Number _____

Date Purchased _____

Purchased From _____



Registered Trade Marks and Patents

TURFCO® and METE-R-MATIC® are registered trademarks of Turfco Mfg., Inc.
The Mete-R-Matic® III F12D Top Dresser is covered by
U.S. Patents 4,438,873; 5,307,952; 5,307,965.
Other Patents Pending.

Specifications



Intended Use: The Mete-R-Matic III F12D is a towed top dresser. The F12D is intended to be used for the application of properly prepared organic top dressing material. The F12D is NOT intended to be used for any purpose other than the application of properly prepared top dressing material. The F12D is NOT designed for or intended to accept riders.

- Hopper Capacity** 18.3 Cubic Feet (0.51 Cubic Meter) When Filled Level,
22 Cubic Feet (0.64 Cubic Meter) Heaped.
- Hopper Dimensions** Top = 72" x 36" (1.83 Meter x 0.92 Meter)
Bottom = 60" x 20" (1.5 Meter x 0.51 Meter)
Depth = 17-1/2" (0.45 Meter)
- Spreading Width** 60" Inches (1.5 Meter)
- Top Dressing Speed** Up To 8 MPH (12.8 Km/h).
- Transport Speed** Up to 8 MPH (12.8 Km/h) When Loaded,
Up to 15 MPH (24 Km/h) When Empty.
- Conveyor Belt** 60" Inches (1.5 Meter) Wide Rubber Composition With Chevron Pattern.
- Brush** 9" Inch (228 mm) Diameter Polypropylene Bristle.
- Metering Gate** Opening Adjustable Up To 2-1/4" Inches (57 mm).
- Controls** Electrically Operated Clutch For Conveyor and Brush Drive.
Metering Gate Opening Adjusted by Hand.
- Drives** Ground Driven.
- Wheels** Six, 16 x 6.50 - 8, Rib Tread Turf Tires.
- Hitch** Standard 5/8" Inch Pin Hitch on a Straight Tow Bar.
Optional 2" Inch Ball Coupler on a Fifth Wheel Tow Bar.
- Electrical Requirements** 12 Volt Direct Current, Negative Ground
(Electrical Power Provided By the Tow Vehicle).
- Empty Weight** 851 lbs. (386 Kg.)
- Maximum Load Weight** 2,138 lbs. (970 Kg.)
- Total Maximum Combined Weight (Machine Plus Load)** 2.989 lbs. Maximum
(1,356 Kg. Maximum)
- Maximum Angle of Operation** 15° Degrees on Side Slopes - 12° Degrees Up and Down Slopes

How To Obtain Parts and Service

To order parts, or to arrange repair service, contact the nearest authorized TURFCO dealer. For a list of authorized TURFCO dealers in your area, or for additional information regarding the Mete-R-Matic III F12D Top Dresser, direct inquiries to:

TURFCO Mfg. Inc.
1655 101st Avenue North East
Minneapolis, MN. 55449-4420 USA
Telephone: (763) 785-1000
FAX: (763) 785-0556
E-mail: service@turfco.com
Internet: www.turfco.com

To ensure safety and proper operation, always purchase genuine TURFCO replacement parts from an authorized TURFCO dealer. Replacement parts from other sources may damage the Mete-R-Matic III Top Dresser and/or create a safety hazard. Always refer repairs to properly trained service personnel.

DO NOT ALTER the Mete-R-Matic III F12D Top Dresser in any manner. Unauthorized alterations may affect it's operation, performance, and may result in injury or death to the operator as well as other individuals in the work area.

Recognizing Safety Warnings Used In Manual LOOK FOR THE SAFETY HAZARD WARNING SYMBOL



The symbol is used to alert the operator of safety hazards.
It is used in conjunction with the words DANGER, WARNING, and CAUTION.



“DANGER” identifies immediate hazards which will result in serious injury or death.

“WARNING” identifies potential hazards which could result in serious injury or death.

“CAUTION” identifies hazardous situations which may result in minor injury and/or could result in damage or destruction of equipment.

General Safety Practices

Safety on the job should always be a top priority. Training and experience are important factors in the safe operation of equipment. Please consider the following information and realize that safe operation is a matter of using common sense as it relates to the machine, its maintenance, the operator, the training, and the operating conditions. These are general safety instructions that apply to most turf maintenance equipment.

This list includes many general safety instructions as they relate to turf equipment. This list does not encompass all hazards. Common sense must always be used to determine the safest way to operate a machine under specific conditions.

TRAINING:

- Always read the manual before operating a machine for the first time.
- Always read the warning decals before operating a machine for the first time.
- Always check the location and use of each control before operating a machine for the first time.
- Practice operating the machine in a safe area with no obstructions until becoming familiar with the controls.
- If you have questions, ask your supervisor or call the factory.

CLOTHING:

- Clothes should be snug fit. Loose fitting clothing is hazardous because it may get caught in the mechanism during service or operation.
- Remove jewelry before operation. Jewelry may get caught in the mechanism.
- Wear shoes that will protect your feet. Sneakers do not protect and do not provide the protection of leather shoes or boots. Steel toed safety shoes should be considered for many situations.
- Hard Hat: The use of a hard hat should be considered when using equipment on a golf course. The danger of

being hit by a golf ball should be a major concern as well as protection while operating under trees.

- Eye Protection: Safety glasses and/or face shields should be considered when operating, as well as working in close proximity to high speed rotary equipment. Watch for rotary mowers, edgers, brush and string trimmers. Rotary mowers can throw debris at speeds up to 320 Km/h (200 mph).
- Hearing: If the noise level of the equipment is too loud, consider the use of ear protection.
- Do not use stereo headsets during operation. This is a distraction that may lead to an accident. Headsets also make it difficult to hear other people and equipment while operating the machine.
- Respirators: When operating in dusty, windy conditions, wear a respirator. This is also an important consideration if operating equipment while spraying chemicals and fertilizers.
- Gloves: Use gloves when handling sharp or hazardous objects.

THE OPERATOR:

- The operator should never use a machine while under the influence of alcohol or drugs.
- The operator should be aware of the hazards of working in the sun and should take proper precautions to avoid heat stress and dehydration. Use sun screen products when necessary.
- The operator should never attempt to ride a machine that is not designed for that purpose. Do not allow others to ride a machine that is not designed for passengers. If designed to carry passengers, do not allow more passengers to ride a machine than the machine was designed to carry.
- Care should always be taken when mounting and dismounting a riding machine. Prevent injuries and falls by making sure the operator does not slip. Unless it is an emergency, do not jump off a machine. Injury may result when an operator's foot slips trying to jump from a machine.
- Do not operate any equipment at unsafe speeds. Speeds should be reduced when turning or operating on slopes. The operator must use common sense to

determine a safe speed based on the equipment, the load, the slope, the surface, and other conditions that may affect safe operation.

- The operator must be aware of the conditions around the area. Be aware of other people and machines.
- Beware of slippery conditions. Wet turf can be encountered on slopes, when turning or stopping, or at higher speeds.
- Keep hands and feet away from cutting devices and drive components. Shut off the engine and remove the key or ignition wire when servicing cutting devices or drive components.
- If required to lift, an operator should ask for help if the object is too heavy. The operator should lift with his or her legs instead of the back. Care should be taken to avoid twisting the back while lifting a heavy load.
- Never allow children to operate the machine.

THE MACHINE:

- ***Tow vehicles must have adequate tow hitches and brakes to control any towed machine. Check the weight and capacity of the machine that will be towed by that vehicle. Trucks used to carry equipment must have adequate load capacity and brakes. Check the weight and capacity of the machine that will be towed by that vehicle.***
- Do not overload machinery. The components are designed for certain weights and capacities. Overloading the machine will cause unsafe conditions.
- Make sure the brakes are operating properly.
- Check to assure that all controls are in good operating condition.
- Inspect to insure that all guards are in place. Do not operate a machine without all guards in place.
- Always check the machine to make sure it is in good working order. Do not place hands or feet near moving or rotating parts.
- Check the tire pressure.
- Check the condition of the hydraulic hoses. Leaks and worn hoses should be fixed or replaced before the machine is put into service. Do not use your fingers or hands to check for hydraulic leaks. High pressure leaks can puncture the skin and force oil into the body. This can cause severe injury or death.
- Shut off the engine before servicing the machine. It is best to check machines on a level area. Machines on a slope may roll when the engine is off.
- Do not modify the machine in any manner. Refer unfamiliar repairs and adjustments to mechanics that have been trained to do them properly.
- Replace decals that are damaged or unreadable.

THE ENGINE:

- Prevent accidental starting by removing the spark plug wire when servicing the engine or the equipment. Disconnect the negative wire from the battery terminal if the engine is equipped with an electric starting system.
- Do not strike the flywheel with a hammer or any hard object. This may cause the flywheel to shatter in operation.

- Pull the starter cord slowly until resistance is felt. Then pull the cord rapidly to avoid kickback and to prevent hand or arm injury.
- Do not run the engine in an enclosed area. The exhaust gases contain carbon monoxide, an odorless and deadly poison. ***The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.***
- Do not store, spill, or use gasoline near an open flame, nor near an appliance like a stove, furnace, or water heater that uses a pilot light or can create a spark.
- Do not refuel indoors or in an unventilated area. Check the fuel level. Do not over fill. Do not add fuel while the machine is hot because spilled fuel may cause a fire. Allow the engine to cool before refueling.
- Do not transport the machine with fuel in the tank.
- Do not remove the fuel tank cap or fill the fuel tank while the engine is hot or running.
- Do not operate the engine if gasoline is spilled, when the smell of gasoline is present, or when other explosive conditions exist. Move the equipment away from the spill and avoid any ignition until the gasoline has evaporated.
- Do not choke the carburetor to stop the engine. Whenever possible, gradually reduce the engine speed before stopping.
- Do not tamper with the governor springs, links or other parts to increase the engine speed. Run the engine at the speed set by the equipment manufacturer.
- Do not check for a spark with the spark plug removed. Use an approved tester. Use the correct tools to service the machine.
- Do not crank the engine with the spark plug removed. If the engine is flooded, place the throttle in fast and crank until the engine starts. Avoid damage to electric starter by cranking intermittently until engine starts.
- Do not operate the machine without a muffler. Inspect the muffler periodically and replace it if it is leaking or worn. Replace it with correct muffler. Do not touch a hot muffler, cylinder, or cooling fin.
- Do not operate the engine with an accumulation of grass, leaves, or other combustible material in the muffler area.
- Keep the cylinder cooling fins and the governor parts free of dirt, grass, and other debris.
- Do not use the engine on any forest covered, brush covered, or grass covered unimproved land unless a spark arrester is installed in the muffler. In the State of California, a spark arrester is required by law. Other states may have similar laws. Federal laws apply on federal lands.
- Do not start the engine with the air cleaner or the air cleaner cover removed.
- Use fresh gasoline. Stale fuel can gum the carburetor and can cause leakage. Check the fuel lines and fittings frequently for cracks and leaks.

Assembly



To Avoid Serious Injury,
Always Follow All Safety Hazard Warnings and
Decals. Wear the Appropriate Safety Gear When
Assembling the Top Dresser.

ASSEMBLING HOPPER
(SEE FIGURE 1)

Step 1. Attach both hopper side panels [1] to the top dresser frame. The top flanges of the panels must face in toward the center of the machine. The hopper side seals [2] must be between the side panel and the frame. Use 1/4"-20 x 5/8" Whizlock screws [3] to mount the hopper side panels and seals to the frame. All screw heads should be inside the hopper. Secure with 1/4"-20 Whizlock nuts [4]. Do not tighten at this time.

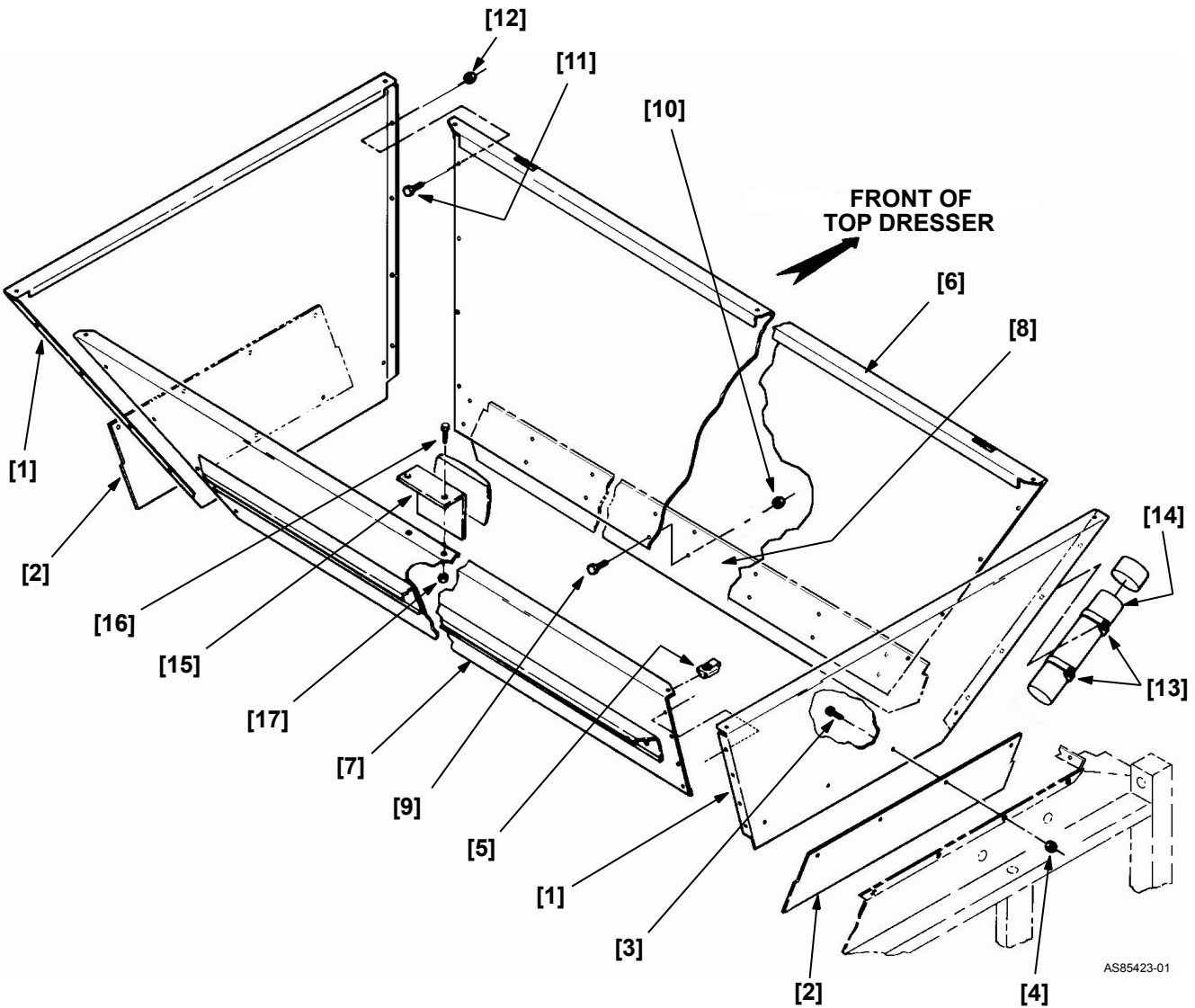


FIGURE 1

Step 2. Install four 1/4" trap nuts [5] on both upper corners of the hopper front panel [6] and the hopper rear panel [7]. The nut portion of the trap nut should be on the bottom of the flange and should line up with the hole in the panel.

Step 3. Attach the front hopper seal [8] to the front hopper panel [6]. Use the lower row of holes on the front hopper panel and the lower row of holes in the seal. Place the seal on the outside face of the panel with the 45° degree angles to the bottom. Secure to the panel with 1/4"-20 x 5/8" Whizlock screws [9] and 1/4"-20" Whizlock nuts [10]. All screw heads should be inside the hopper panel, nuts should be on the outside face of the seal. *Securely tighten the screws and nuts.*

Step 4. Attach the front hopper to the top dresser frame. Slide the front hopper panel [6] down inside the flanges of the side panels [1]. The front hopper seal [8] must lay on top of the conveyor belt and the side panel seals. Slide the panel down until the upper row of holes in the hopper seal align with the holes in the frame. Install 1/4"-20 x 5/8" Whizlock screws to hold the front panel and seal to the frame. All screw heads should be inside the hopper. Secure on the outside of the frame with 1/4"-20 Whizlock nuts. *Do not tighten at this time.*

Step 5. Use 1/4"-20 x 5/8" Whizlock screws [11] to attach the front panel to the side panels. All screw heads should be inside the hopper. On the outside of the hopper, secure with 1/4"-20 Whizlock nuts [12]. *Do not tighten at this time.*

Step 6. Install the manual tube to the corner of the front panel. Place the two mounting clamps [13] on the manual tube [14]. Attach the manual tube to the front hopper panel (at the corner). Use the two middle screws. *Do not tighten at this time.*

Step 7. Install the rear hopper panel [7]. Be sure that the top corners of the front and rear panels are put under the corners of the side panels [1]. Use 1/4"-20 x 5/8" Whizlock screws to attach the side panels to the rear panel. All screw heads should be inside the hopper. Secure with 1/4"-20 Whizlock nuts on the outside of the hopper. *Do not tighten at this time.*

Step 8. Secure the top corners of the rear and side panels with 1/4"-20 x 5/8" Whizlock screws. Tighten to the 1/4" trap nut [5].

Step 9. Level all hopper panels and securely tighten all screws and nuts holding the hopper to the frame, then tighten all hardware holding the hopper panels together.

Step 10. Install the mirror bracket [15] on the rear hopper panel. Use holes on the top of the rear hopper panel. Install the mirror bracket so that the mirror is inside the hopper. If the mirror bracket is mounted with the mirror above the hopper panels, it will be subject to damage when loading the hopper. Fasten with 1/4"-20 x 5/8" Whizlock screws [16] and nuts [17]. The mirror should be attached to the bracket with the foam adhesive that is applied to the back of the mirror.

**ADJUSTING METERING GATE
(SEE FIGURE 2)**

Step 11. The metering gate is adjustable forward and backward. To assist in the assembly of the hopper, the gate is factory adjusted to the far back setting. After the hopper is mounted to the top dresser, the gate should be adjusted forward. Use the following steps to properly adjust the metering gate:

- Loosen the two large lock nuts **[A]** that secure the metering gate **[B]** to the metering gate mounting brackets **[C]**.
- Loosen the four hex nuts **[D]** that hold the metering gate mounting brackets **[C]** to the top dresser frame,
- Push the metering gate forward until it is snug against the back of the hopper.
- Tighten the four hex nuts **[D]** on the metering gate brackets.
- The lock nuts **[A]** on the ends of the metering gate provide friction to hold the gate in a selected position. Tighten as required to set the proper friction. Lock nuts on both ends of the gate should be adjusted uniformly.

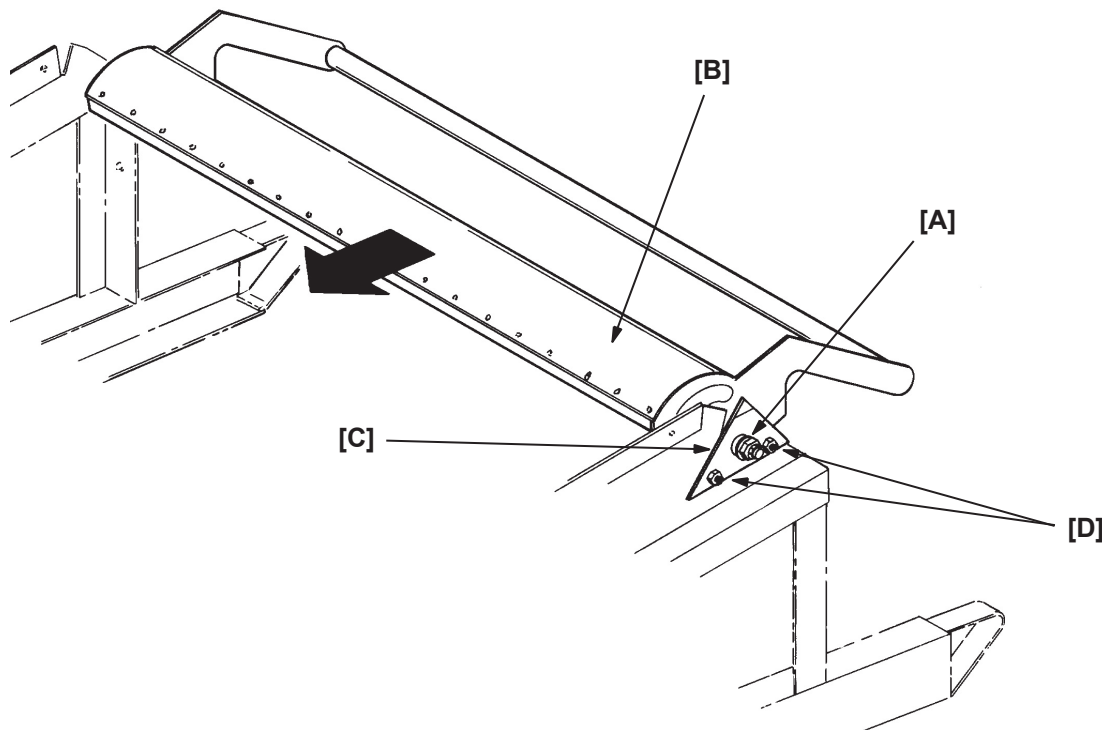


FIGURE 2

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**ATTACHING TOW BAR
(SEE FIGURE 3)**

Step 12. The “Control Box Cable” **[1]** is routed through the inside of the tow bar **[2]**. The cable exits at the rear of the tow bar through a rubber grommet **[3]**. Install the tow bar with the rubber grommet pointing up. Secure the tow bar to the frame using two 1/2”-20 x 4-1/2” screws **[4]**, lock washers **[5]** and nuts **[6]**. Tighten securely.

If equipped with the Optional Fifth Wheel Hitch tow bar, install the same manner as the standard tow bar. The fifth wheel hitch requires a 2” inch ball (not included) on the tow vehicle.

**INSTALLING ELECTRIC CLUTCH WIRING
HARNES AND CONTROL BOX
(SEE FIGURE 3)**

Step 13. The electrical cable for the “Clutch Actuator to the Control Box Cable” **[7]** is factory installed in the top dresser frame. Plug the “Clutch Actuator to the Control Box Cable” connector **[8]** into the connector **[9]** for the “Control Box Cable” **[1]** (cable is inside the tow bar). Take up any slack in the “Control Box Cable” to prevent the wires from dragging on the ground or from being pinched by the tow bar.

Step 14. Plug the connector [10] for the “Power Supply Cable” [11] into the connector [12] on the “Control Box Cable” [1]. There is a 6 amp AGC type fuse in a fuse holder [13] on the positive wire of the power supply cable. The fuse protects the electric actuator and the wire harness from damage by a short in the system. Check the fuse holder to ensure that the proper fuse is installed and is in operating condition.

Step 15. Connect the “Power Supply Cable” [11] to the tow vehicle battery. Battery must be a 12 volt direct current (DC) with a negative (-) ground. The wire with fuse holder [13] is connected to the positive (+) terminal of the battery. The black wire is connected to the negative (-) terminal of the battery.

The electrical actuator works best with a fully charged battery in the tow vehicle. If the actuator does not respond, or if it moves slower than normal, the problem may be a weak battery. All electrical connections must be made securely to insure positive contact. If any problems are noted in the operation of the machine, check the electrical connections first.



WARNING

**To Avoid Serious Injury,
Read and Understand the Entire
Operator Manual Before Operating
This Machine.**

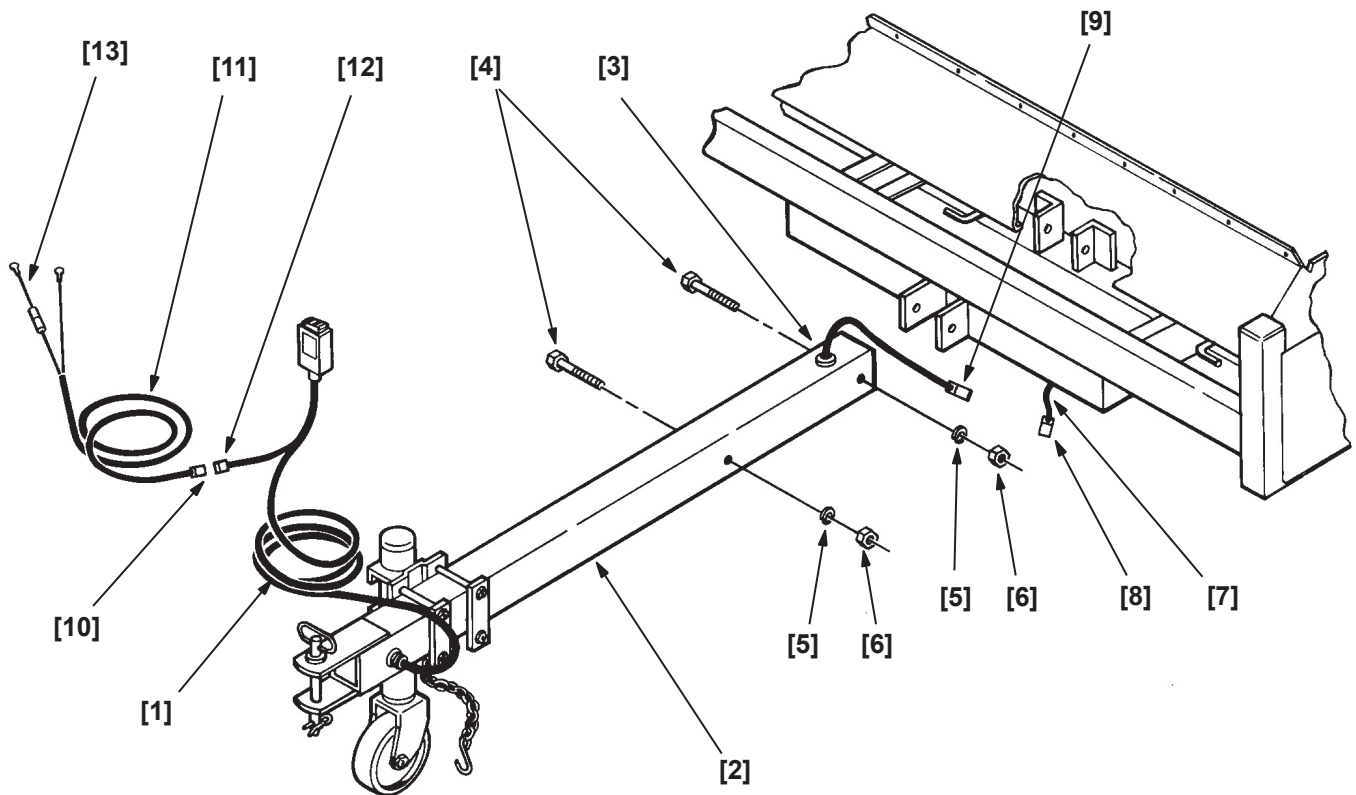
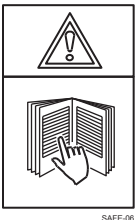


FIGURE 3

AS85423-03

Description



**To Avoid Serious Injury,
Read and Understand the Entire
Operator Manual Before Operating
This Machine.**

Mete-R-Matic III F12D Top Dresser

The Turfco Mete-R-Matic III F12D Top Dresser is a towed type top dresser. The F12D Top Dresser is designed to distribute a uniform application of properly prepared top dressing material to the turf. Top dressing is the introduction of new soils to existing turf.

A conveyor belt carries the top dressing from the hopper, through an adjustable metering gate, into a rotating brush. The brush catches the top dressing and drives it down into the turf base. Top dressing material is spread at a 60" inch (1.5 meter) width at a ground speed up to 12 Km/h (8 MPH).

Intended Use of the Mete-R-Matic III F12D Top Dresser

The F12D Top Dresser is to be USED ONLY for the application of properly prepared organic top dressing material. Properly prepared top dressing is organic material with a controlled moisture content that has been screened to remove debris and excess sized material. The F12D Top Dresser is NOT intended to be used for any purpose other than the application of properly prepared top dressing material.

- Do Not Top Dress Unscreened Material
- Do Not Top Dress Non-Organic Material
- Do Not Top Dress Rocks
- Do Not Ride On Top Dresser
- Do Not Allow Riders On Top Dresser
- Do Not Operate On Side Slopes Over 15° Degrees
- Do Not Operate Up and Down Slopes Over 12° Degrees
- Do Not Put Tools or Implements In Hopper
- Do Not Put the Electric Clutch Control Box in the Hopper
- Tow Only With a Properly Rated Tow Vehicle.

Tow Vehicle and Tow Vehicle Hitch Requirements

Check the towing weight capacity of the tow vehicle. The tow vehicle must have a *minimum* towing capacity of 3000 lbs (1,400 Kg). The type of tow vehicle used must have adequate brakes to safely control the weight of the Mete-R-Matic III F12D Top Dresser. Do not exceed the capacity of the tow vehicle.



When Properly Loaded, the Mete-R-Matic III F12D Can Weigh 2,989 lbs (1,386 Kg).

The Towing Vehicle Must Be Equipped With an Adequate Hitch, Rated for Proper Towing Capacity, and Have Adequate Functional Brakes.

Always use a proper tow vehicle to move the top dresser, even if moving only short distances. Using improper towing methods may cause damage to the top dresser. Safe movement can only be done with proper equipment.



DO NOT disconnect the hitch while the hopper is loaded.

DO NOT disconnect the hitch while on a slope.

Tow vehicle must have an appropriate hitch to attach the top dresser. A 5/8" inch hitch pin is required to safely attach the top dresser. If equipped with the optional fifth wheel hitch, a hitch with a 2" inch ball on the tow vehicle is required. **Heavy duty components are strongly recommended for your tow vehicle.**

Assure that proper electrical power is available to power the top dressers electric clutch. The top dresser requires a negative (-) ground, 12 Volt DC power source.

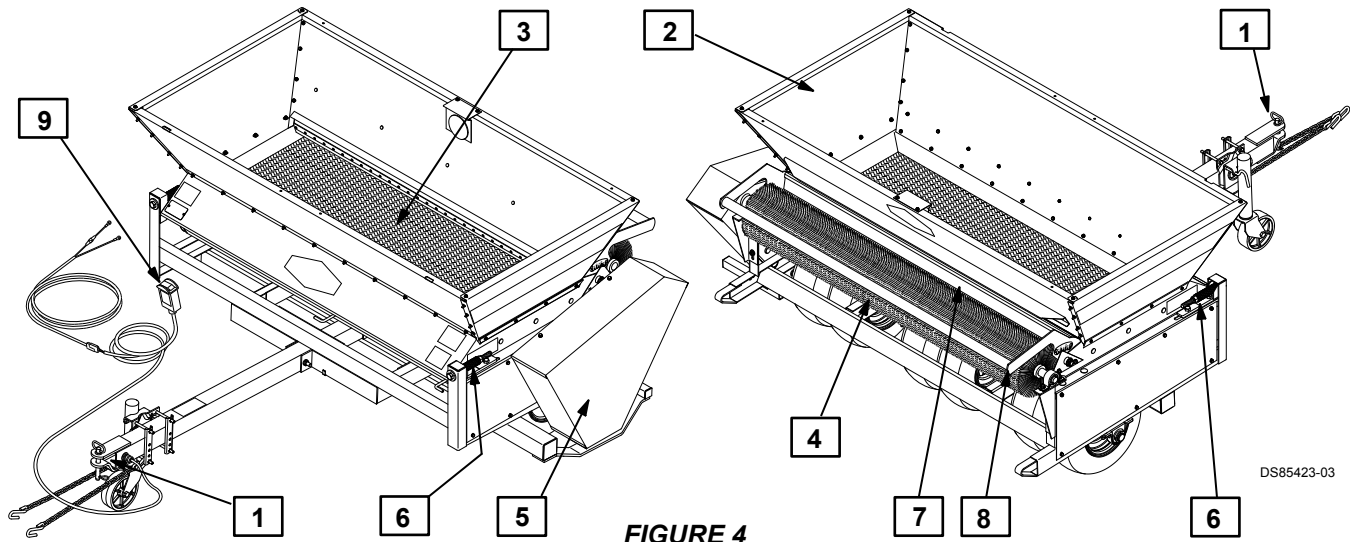
Do not modify the top dressers hitch in any manner. Always inspect the hitch for damage or missing parts before attaching to the tow vehicle. Do not tow the top dresser if it has a damaged or non-functional hitch.

TONGUE WEIGHTS

Maximum allowable tongue weights for the straight hitch is 330 lbs (150 Kg). Maximum allowable tongue weight for the optional fifth wheel style hitch is 520 lbs (235 Kg). Never overload or operate the machine with an overloaded hitch.



DO NOT Exceed the maximum tongue weight.



Location of Major Components and Description of Operator Controls

LOCATION OF MAJOR COMPONENTS AND GUARDS (SEE FIGURE 4)

- 1** Straight Tow Bar and Hitch
- 2** Hopper
- 3** Conveyor Belt
- 4** Brush
- 5** Side Guard
- 6** Conveyor Belt Tension Adjusters
- 7** Metering Gate

DESCRIPTION AND FUNCTION OF OPERATOR CONTROLS (SEE FIGURE 4)

The **Operator Controls** are the conveyor drive Electric Clutch Control Box and the Metering Gate Control Handle. Do not alter Operator Controls and/or operate the top dresser with defective or non-operational Operator Controls.



To Avoid Serious Injury,

Do not alter the controls in any manner and/or operate the machine with defective or non-operational controls.

- 8 Metering Gate Control:** The metering gate control changes the opening size of the metering gate. The metering gate is manually controlled by moving the horizontal bar (on the rear of the metering gate) up and down. Metering gate opening sizes will vary depending on the type and the thickness of top dressing that is desired. Check the decal on

the metering gate to reference the gate opening. The numbering system on the decal is for reference only, it does not refer to opening size in inches or millimeters. See the "SETTING OF METERING GATE" section in this manual for further information on the metering gate.

- 9 Electric Clutch Control Box:** The Electric Clutch Control Box is a hand held control that engages or disengages the clutch that controls the power to the conveyor belt and brush. The control box switch has two positions, "ON" and "OFF". Push the switch in the "ON" position to start the conveyor belt and brush. Push the switch in the "OFF" position to stop the conveyor belt and brush.

There is a 2 second delay between the time the switch is thrown and the spreading starts or stops. Push the electric switch 2 seconds before spreading starts. Push the switch 2 seconds before the spreading stops.

The conveyor belt and the brush are ground driven from the wheels. To avoid damage to the clutches, engage the electric clutch at slower speeds, then increase speed as desired. Engaging the clutch at fast speeds will cause the wheels to skid resulting in damage to the turf and to the clutch. Do not engage the clutch while on a golf green.

Always keep the electric clutch control box in a secure place. When not in use, hang the control box on the front of the hopper. Secure the wiring harness by wrapping around the hangers on the front of the frame. If the control box drops to the ground, the wiring harness will become tangled in the axles and wheels. DO NOT put the control box in the hopper. Severe damage to the control box, conveyor belt, and brush will result when the control box becomes tangled in the conveyor belt and the brush.

Operating Instructions



**TO AVOID SERIOUS INJURY,
Read and Understand the Entire Operator Manual
Before Operating This Machine.**

**TO AVOID SERIOUS INJURY,
Always operate the
Mete-R-Matic III Top Dresser Safely.**

**Wear the Appropriate Personal Safety Equipment.
Read and Follow all Safety Decals and Warnings.**

PRE-OPERATION CHECK LIST

- ✓Grease - The fittings on the Mete-R-Matic III F12D drive train and axle.
- ✓Check - Tires are inflated to correct pressure a indicated on tire.
- ✓Check - The Mete-R-Matic III F12D Top Dresser is properly hitched and secured to the tow vehicle.
- ✓Check - Electrical connection to tow vehicle is correct and the electric clutch operates correctly.
- ✓Check - Electric clutch control box is secure. DO NOT put clutch control box in hopper.
- ✓Check - All guards are in place.

MAXIMUM GROUND SPEED



**TO AVOID SERIOUS INJURY,
DO NOT Exceed 8 MPH (12 Km/h) When the
Hopper is Loaded.
DO NOT Exceed 15 MPH (24 Km/h) When the
Hopper is Empty.**

Excessive stress on the machine and the tow vehicle will occur if speeds are in excess of 8 MPH (12 Km/h). Maximum transport ground speed when the hopper is loaded is 8 MPH (12 Km/h). Maximum transport ground speed when empty is 15 MPH (24 Km/h).

MAXIMUM ANGLE OF OPERATION

Do not operate the top dresser on side slopes over 15° degrees. Do not operate the top dresser up and down side slopes over 12° degrees. Do not operate the top dresser with an over filled or overloaded hopper. Tipping or rolling over of the machine can occur.



**TO AVOID SERIOUS INJURY
and To Avoid Damage to the Top Dresser
and the Tow Vehicle,
Do not operate the top dresser on steep slopes.
Do Not Operate on Side Slopes Over 15° Degrees.
Do Not Operate Up or Down Slopes Over 12°
Degrees.
Tipping or rolling over of the machine and the tow
vehicle can occur.**

LOADING OF HOPPER

The maximum hopper capacity is 22 cubic feet (0.64 cubic meter) when top dressing material is heaped in the hopper. Maximum weight of the load in the hopper is 2,138 lbs. (970 Kg). The width of the hopper permits loading with a front end loader. Use caution not to damage the hopper mirror. Never overfill or overload the hopper. Overloading may cause undue stress to the top dresser components Overloading may also cause tires to sink into the turf and leave tracks. An overloaded hopper will also cause the top dresser to be top heavy and out-of-balance and will increase the chance of the top dresser to tip or roll over if operated on slopes.



**TO AVOID SERIOUS INJURY,
Always keep the top dresser hitched to the tow
vehicle when the top dresser is loaded.
Never unhitch the top dresser when on a slope.**

When using the top dresser, keep the material in the hopper at a level that will assure an even flow to the brush. If the level of the material in the hopper gets too low, an irregular pattern of top dressing will result. Prevent this by refilling the hopper before this low point is reached.

SETTING OF METERING GATE

The amount of top dressing material released for spreading is determined by the metering gate setting. Moisture content and the type of top dressing material are variables that will affect the setting of the metering gate. Use a smaller opening for dry material and a larger opening for damp material. Experimentation by the operator will help to determine the proper setting.

It is difficult to observe the amount of top dressing being distributed when applying on turf. The material is driven into the root zone by the rotating brush and is difficult to measure, especially with small gate setting. The amount of material that you see on a hard surface is a true indication of the amount of top dressing applied. Testing for desired amount of top dressing material should be made with the machine moving forward under power on asphalt or concrete, or on a hard area off the turf. Lay a few short swaths of top dressing material with the metering gate opened at position No. 1 on the decal. Increase or decrease the opening to achieve the thickness of application you need.

TOP DRESSING OPERATION

Forward speed is an important part of top dressing. Forward speed during top dressing should not exceed 12 Km/h (8 MPH). Undesired top dressing patterns and excessive stress on the machine will occur if speeds are in excess of 12 Km/h (8 MPH). The drive mechanism and the conveyor/brush are synchronized so that the same amount of top dressing is being applied regardless of forward speed.

Moderate and constant speed will provide the best top dressing results. **Maximum towing speed when empty is 24 Km/h (15 MPH).**

To transport the top dresser without distributing top dressing material, close the metering gate and place the electric control box in the "OFF" position.

There is a 2 second delay between the time the electric clutch control box switch is thrown and the spreading starts or stops. Push the electric switch 2 seconds before spreading starts. Push the switch 2 seconds before the spreading stops.



To Avoid Damage to the Clutch, Engage Only At Slow Speeds.

The conveyor belt and the brush are ground driven from the wheels. To avoid damage to the clutch, engage it at slower speeds, then increase speed as desired. Engaging the clutch at fast speeds will cause the wheels to skid resulting in damage to the turf and to the clutch. Do not engage the clutch while on a golf green.

For best results, top dress in straight lines. A gradual turn can be made without difficulty or undesired top dressing results. On too sharp of a turn, uneven distribution of top dressing material will occur. A sharp turn will result in more top dressing being applied to the inside ground surface of the turn than on the outside surface. To make a sharp turn without top dressing, the turn should be taken slowly. To fast of a turn will increase the possibility of damage to the turf caused by the outside wheels skidding. If a sharp turn is taken to fast, the top dresser may become unstable and cause tipping of the machine and the tow vehicle.

To Avoid damage to the turf, do not stop the top dresser while on a golf green. Tires may sink into the turf and leave tracks.

Always keep the electric clutch control box in a secure place. The electrical harness can be secured to the frame by attaching it the hangers located on the front of the frame. Hang the control box in the slot on the top of the front hopper panel. If the control box drops to the ground, the box can be damaged by the wheels or become tangled in the axles.



Do not place the electric clutch control box in the hopper.

Severe damage to the control box, the conveyor belt, and the brush can result if the clutch becomes engaged in the conveyor or brush.



TO AVOID SERIOUS INJURY, Keep Hands and Clothing Away From Rotating Brush and Conveyor.

TO AVOID SERIOUS INJURY, Do Not Ride On The Top Dresser Or Attempt To Give Rides To Others.

Troubleshooting Table

PROBLEM	POSSIBLE CAUSE
Poor Top Dressing Results	Low or Uneven Top Dressing Level In the Hopper.
	Moisture Level In top Dressing Too High.
	Unscreened Material In Hopper. Debris or Rocks in Metering Gate.
	Build-Up Of Top Dressing Material On Machine Components.
	Brush Not Adjusted Close Enough to Conveyor Belt (Refer Repair to Service Personnel).
	Conveyor Belt Tension Wrong.
Conveyor Belt Alignment Wrong	Build-Up of Top Dressing Material on Conveyor Belt Rollers (Refer to Service Personnel).
	Unequal Measurement on Tension Adjusters.
	Bad Conveyor Belt Roller Bearings or Loose Roller Bearing Hardware (Refer Repair to Service Personnel).
	Damaged Conveyor Belt (Refer Repair to Service Personnel).

PROBLEM	POSSIBLE CAUSE
Electric Clutch is Not Functioning Properly	Electrical Connection to Tow Vehicle Not Secure. Poor Connection or Wrong Polarity.
	Low Battery on Tow Vehicle.
	Damage To Wiring Harness. Wires Pulled Loose From Hand Held Control Box or Clutch Actuator (Refer Repair to Service Personnel).
	Bad Fuse in Wiring Harness (Replace with AGC 6 AMP).
	Clutch Dogs Damage (Refer Repair to Service Personnel).
	Clutch Wear Plate Adjustment Needs Adjustment (Refer Repair to Service Personnel).
	Main Clutch Needs Adjustment (Refer Repair to Service Personnel).

Operator Daily Inspection



TO AVOID SERIOUS INJURY

Always follow all safety hazard warnings and decals.

Work safely and wear the appropriate safety gear when inspecting, making adjustments servicing the Top Dresser.

Do Not Attempt To Perform Any Inspection, Adjustment, or Service With Any Part Of the Top Dresser In Operation.

Properly Secure The Top Dresser Before Starting Any Adjustment or Service Procedures.

Before each use, check the following items:

- Inspect for damaged or missing guards. Do not operate any machine with missing or damaged guards.
- Inspect entire machine for damaged or inoperable components. Do not operate any machine with damaged or inoperable components. Inspect the entire machine for loose fasteners. Retighten as required.
- Inspect all controls for proper operation.
- Check all tires for proper inflation. Improper inflation will damage the tires and may damage the turf. Inflate tires to the tire pressure rating printed on the tires.

- Inspect the silicon seal on the conveyor belt splice. The silicon stops the leakage of top dressing material through the conveyor belt splice. Material can buildup on the inside of the conveyor belt and on the rollers causing conveyor belt tension and alignment problems. Apply new silicon sealant to the splice as required.
- Check for a buildup of top dressing material on components under the hopper and conveyor belt.
- Inspect the conveyor belt adjustment and alignment. Check the measurement on the belt tension adjusting screws for proper setting of belt tension.
- Check the brush. Inspect for any damage, debris caught in bristles, or a buildup of top dressing material. Clean or repair as required. Check for proper brush bristle contact with the conveyor belt. Refer any brush adjustment procedures to service personnel.
- Maintain proper daily lubrication intervals on the top dresser. Refer to the Lubrication section of this manual proper lubrication of the top dresser.
- Before filling the hopper, inspect the conveyor belt adjustment and alignment. Proper adjustment must be maintained to prevent damage to the conveyor belt. Check the measurement on the belt tension adjusting screws for proper setting of belt tension. If adjustment is required, see the instructions for Conveyor Belt Tension adjustment in the Operator Adjustment section this manual. Check the conveyor belt adjustment and alignment frequently during operation.

OPERATION

METE-R-MATIC® III

Operator Adjustments



WARNING



**TO AVOID SERIOUS INJURY,
Do Not Attempt To Adjust or Service any Part
of the Top Dresser When It Is Operating.**

**Properly Secure The Top Dresser Before
Starting Any Adjustment or Service
Procedures.**

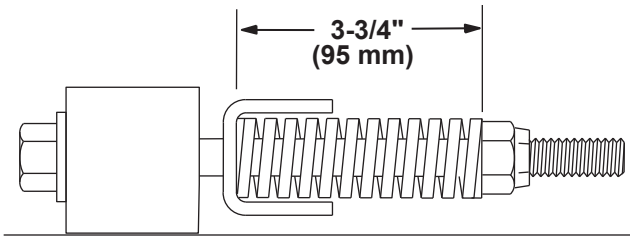


SAFE-12

The only operator adjustment on the F12D Mete-R-Matic III Top Dresser is the conveyor belt tension adjustment. Refer all other adjustments or repairs to qualified service personnel.

CONVEYOR BELT TENSION ADJUSTERS (SEE FIGURE 5)

The tension on the conveyor belt must be adequate to assure proper operation. It is important that the belt contact the drive roller with a constant force along its entire length. This force is imparted to the belt by the adjustment springs located at each end of the front roller.



SV85423-01

FIGURE 5

Setting Conveyor Belt Tension

Initial spring setting should be 3-3/4" inches (95 mm) (SEE FIGURE 5). If conveyor belt slips under load, tighten conveyor belt adjusting both screws equally at 1/2 turn intervals until slippage stops. Do not compress spring to less than 3-1/4" inches (82 mm). Recheck conveyor belt tension measurement after operation. If belt still does not operate properly, reset spring to 3-3/4" inches (95 mm) and refer repair to service personnel.

Centering Conveyor Belt

On the inside of the conveyor belt there are two V-guides that track in grooves located on the ends of the conveyor belt rollers. These V-guides will keep the conveyor belt centered if the conveyor tension is equal on both sides. If a centering problems exists, the V-guides may jump out of the roller groove. Refer this repair to service personnel.

Lubrication



WARNING



**TO AVOID SERIOUS INJURY,
Do Not Attempt To Lubricate Any Part of the
Top Dresser When It Is Operating.**

**Properly Secure The Top Dresser Before
Starting Any Lubrication Procedures.**

When in use, the Mete-R-Matic III F12D should be lubricated **DAILY** with a good quality No. 1 Bentone or Lithium grease. There are a total of 10 grease fittings on the machine (SEE FIGURE 6).

- A** One on each wheel hub (3 total) between the tires.
- B** One on each wheel clutch (3 total) to the right of each wheel hub.
- C** One on the end of the axle for the main clutch (inside guard).
- D** One on the end of the dead shaft for the double sprocket (inside guard).
- E** One on the end of the rear roller shaft (inside guard).
- F** One on the lower chain idler (inside guard).

There are also four springs on the axle which actuate the clutches. Grease should be applied to the surface of the axle inside these springs to prevent rust.

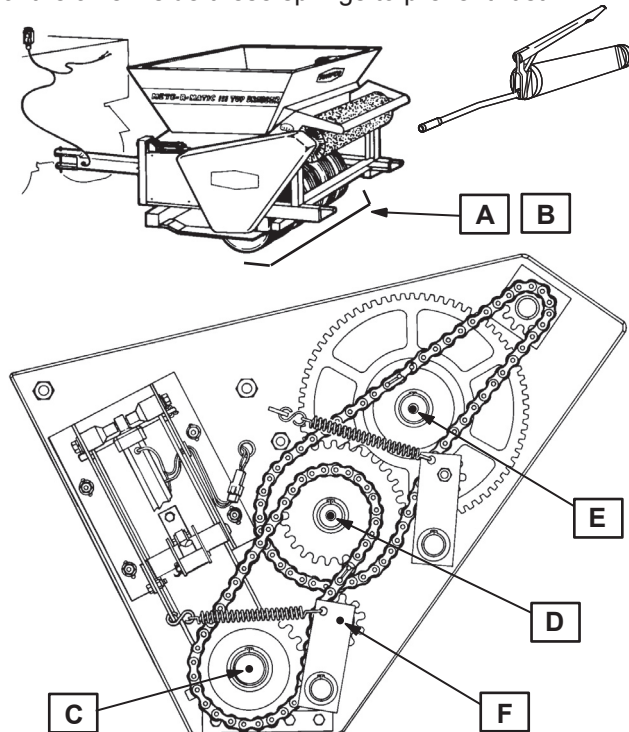


FIGURE 6

SV85423-02

Conveyor Belt Care

The conveyor is a rubber composition belt with two V-guides on its underside that travel in the grooves of the pulleys on both rollers. The belt has a chevron pattern that carries the top dressing to the metering gate and brush for distribution.

The conveyor belt has a splice that is sealed with silicon sealer. The silicon sealer should be maintained or replaced as needed to prevent top dressing from passing through the conveyor belt connection and causing a build-up on the rollers.

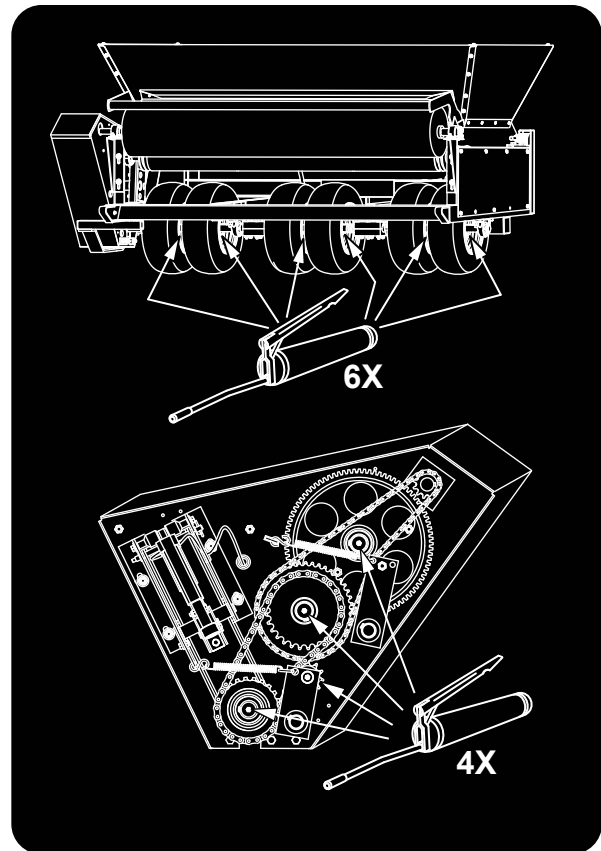
After extended periods of use the front roller may fill with top dressing and cause excessive tension on the belt. Periodically remove the unwanted material from the inside front roller.

To prolong the life of the conveyor belt, empty the hopper, clean the top of the belt and store the Top Dresser away from the direct sunlight.

Storage

Before storage of the F12D Mete-R-Matic III Top Dresser, clean the entire machine. The conveyor belt should be thoroughly cleaned and stored out of the direct sunlight. If storage is for an extended period of time, remove the tension on the conveyor belt by loosening the conveyor belt tension adjusters.

To return to service after extended storage, perform a complete inspection and adjustment of the entire machine. Reset the conveyor belt tension in accordance with the instructions in the Operator Adjustment section in this manual. Lubricate the entire machine in accordance with the instructions in the Lubrication section in this manual.



OP85423-01REV B

EUROPEAN LUBRICANTS, FUEL, AND PARTS DISPOSAL NUMBERS

Motor Oil.....54112	Gear Oil 54112
Grease.....54202	Plastic Parts... 57127
Tires.....57502	

Service and Adjustment



SAFE-12



THE FOLLOWING SERVICE AND ADJUSTMENT PROCEDURES ARE FOR QUALIFIED SERVICE PERSONNEL ONLY.

TO AVOID SERIOUS INJURY,

Always follow all safety hazard warnings. Work safely and wear the appropriate safety gear when servicing or making adjustments to the Mete-R-Matic III Top Dresser.

Read and follow all safety hazard decals.

Do Not Attempt To Adjust or Service any Part of the Top Dresser When It Is Operating.

Properly Secure The Top Dresser Before Starting Any Adjustment or Service Procedures.

CONVEYOR BELT ADJUSTMENTS

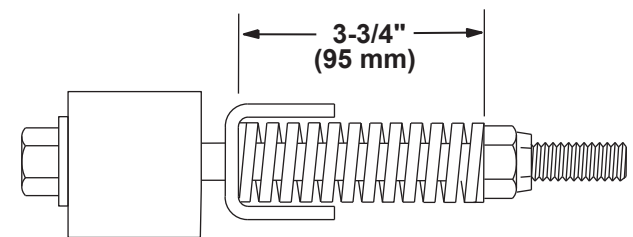
Power to run the conveyor belt is provided by a wheel driven drive train to the conveyor belt rear drive roller.

This roller is covered with a rough material which provides the friction necessary to move the belt. The tension on the conveyor belt must be adequate to assure that the conveyor belt moves at the same rate as the rear drive roller.

It is important that the belt contact the drive roller with a constant force along its entire length. This force is imparted to the belt by the adjustment springs located at each end of the front roller.

Conveyor Belt Tension

Initial spring setting should be at 3-3/4" inches (95 mm). If conveyor belt slips under load, tighten conveyor belt adjusting both screws (SEE FIGURE 7) equally at 1/2 turn intervals until slippage stops. Do not compress spring to less than 3-1/4" inches (82 mm). If belt still does not operate properly, reset spring to 3-3/4" inches (95 mm) and check for problems elsewhere.



SV85423-01

FIGURE 7

Centering Conveyor Belt

On the inside of the conveyor belt there are two V-guides that track in grooves located on the ends of the conveyor belt rollers. These V-guides will keep the conveyor belt centered if the conveyor tension is equal on both sides. If the conveyor belt is not centered, the V-guides may have jumped out of the roller groove. Check for unequal tension on the conveyor belt by measuring the spacing on the tension spring (SEE FIGURE 7). Also check for a buildup of top dressing material on roller, loose screws on the roller shaft bearing retainers, worn bearings, or a damaged conveyor belt.

To center the conveyor belt if the belt V-guides have jumped out of the roller grooves, adjust the tension springs. If the conveyor belt needs to go to the left, loosen the left hand conveyor belt adjusting screw. If the conveyor belt needs to go to the right, loosen the right conveyor hand belt adjusting screw.

It maybe necessary to repeat this adjustment with the hopper loaded. Recheck conveyor belt tension measurement (SEE FIGURE 7).

CONVEYOR BELT CARE

The Mete-R-Matic III has a unique design. The conveyor is a rubber composition belt with two V-guides on its underside that travel in the grooves of the pulleys on both rollers. The top of the belt has a chevron pattern that allows a very small amount of material to be discharged when the gate is closed.

The conveyor belt has a splice that is sealed with silicon sealer. The silicon sealer should be maintained or replaced as needed to prevent top dressing from passing through the conveyor belt connection and causing a build-up on the rollers.

After extended periods of use the front roller may fill with top dressing and cause excessive tension on the belt. Periodically remove the unwanted material from the inside front roller.

To prolong the life of the conveyor belt, empty the hopper, clean the top of the belt and store the Top Dresser away from the direct sunlight.

Conveyor Belt Replacement

Replacement of the conveyor belt may be necessary if it has been damaged or will no longer stay in proper alignment or adjustment.



**To Avoid Serious Injury,
Work Safely and Wear the Appropriate Safety
Gear.
Always Read and Follow All Safety Hazard
Warnings and Decals.**

**Do Not Attempt to Service or Adjust With Any Part
of the Top Dresser When it is Operating.**

REMOVAL OF OLD CONVEYOR BELT

Step 1. With the clutch engaged, tow the Mete-R-Matic III until the conveyor belt splice is below the brush, but still on the rear roller. Check that the splice can be removed without interference from the frame or the brush.

Step 2. Disengage the clutch. **Remove the electrical connection from the tow vehicle.**

Step 3. Remove side guard. Loosen the bolts that hold the brush bearings and move the brush back so that it no longer touches the conveyor belt. It may be necessary to remove the tension on the idler sprocket to allow enough slack in the brush drive chain. Open the metering gate to the largest opening.

Step 4. Release the tension on the conveyor belt by loosening both conveyor belt adjusting screws. Push the front roller towards the back of the machine to ensure that all tension is released.

Step 5. Locate the splice pin and straighten the ends so that it can be removed. Remove the splice. Remove the conveyor belt by pulling out over the top of the brush.

Step 6. Clean the pan and plastic pan cover. Inspect for wear and sharp edges that may damage the new conveyor belt. Clean and inspect rollers.

INSTALLATION OF THE NEW CONVEYOR BELT (SEE FIGURE 8)

Step 7. The conveyor belt is directional and must be inserted in the proper direction to ensure a correct travel path. Identify the belt ends by looking for the word “travel” and/or an arrow. If neither is found, look for one end near the splice that has its outside ends cut off at an angle. With the chevron pattern up, start the belt with the non-angled cut end going in first, or the travel/arrow end going in first (arrow pointing backwards).

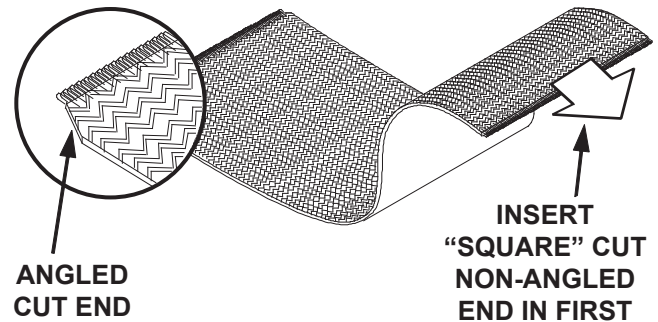


FIGURE 8

SV85423-13

Insert the belt over the brush, moving through the metering gate opening, and into the hopper. Make sure that the conveyor belt is under the hopper seals. Continue to insert conveyor belt around the front roller. Ensure that the raised V-groove on the inside of the conveyor belt fits into the V-groove on the front roller. Continue under the pan until the two ends meet at the rear roller at the rear of the frame.

Step 8. Align the ends of the conveyor belt on the rear roller. Insert the splice pin and link the two ends of the conveyor belt together. Slightly bend the ends of the splice pin to secure them in the belt. Adjust conveyor belt tension screws to the recommended setting of 3-3/4” (95 mm). Seal the splice along its entire length with silicon and allow to dry.

Step 9. After silicon has dried, readjust the brush for proper bristle contact. See Brush Adjustment section.

Step 10. Replace the side guard. Reinstall the electrical connection to the tow vehicle. Engage the clutch and run the conveyor. Check that conveyor belt runs free, does not catch on the hopper seals, or rub on any frame or drive component.

Step 11. Recheck the belt tension.

**MAIN CLUTCH INSPECTION OR REPLACEMENT
(SEE FIGURE 9 AND FIGURE 10)**

Use the following steps to remove, inspect, and replace the Main Clutch. .

Step 1. Shift clutch to the engaged position. Disconnect the top dresser from the power source. Remove the guard from the left side of the Mete-R-Matic III F12D.



WARNING

**To Avoid Serious Injury,
Disconnect the electrical connection for the
Mete-R-Matic III F12D Top Dresser
from the tow vehicle power source.**

Step 2. Release the tension on the chain idler for the lower chain by disconnecting the spring [A]. Remove chain [B].

Step 3. Remove pivot pin [C] and pull the clutch actuator up and away from the clutch. (During reassembly, make certain the studs on the actuator fit into the groove on the clutch.)

Step 4. Remove retaining ring [D] from the end of the axle.

Step 5. Remove clutch driver [E] and the washer, key, and next retaining ring.

Step 6. Check the driven half of clutch [F] for side play on the axle. If play is excessive, more than .015 inch (0.381 mm), the sleeve bearings should be replaced. Remove the clutch from the axle.

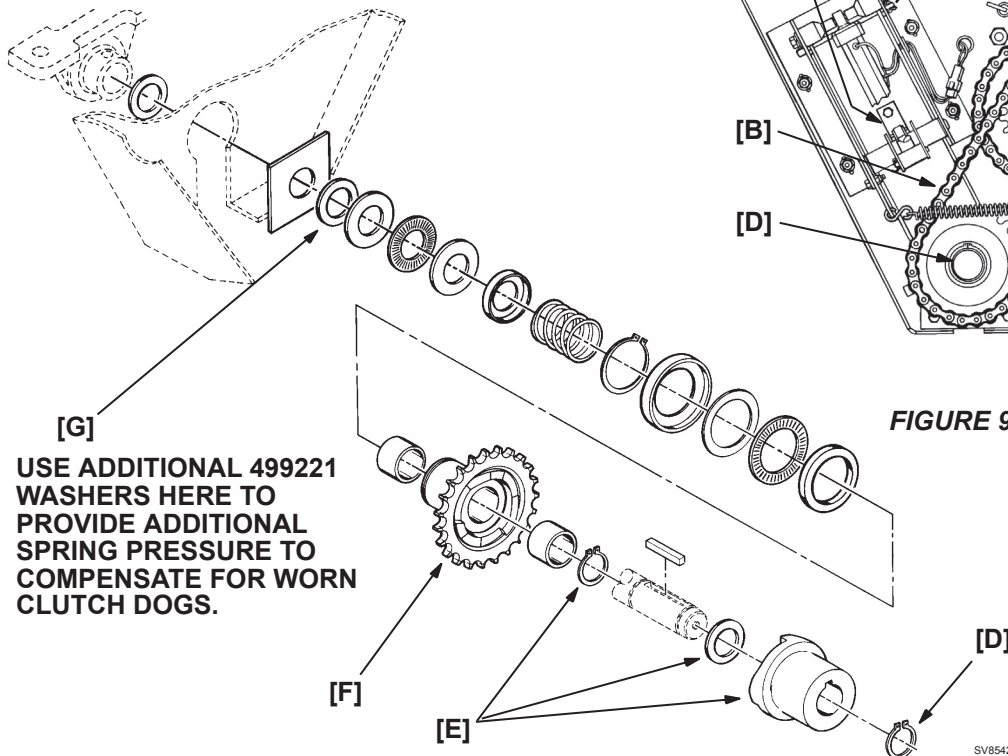


FIGURE 9

Step 7. Inspect the clutch dogs on the face of each half of the clutch. Refer to FIGURE 10. If the clutch dogs are in good condition, the edges will be square. If the edges of the clutch dogs are rounded or broken, the clutch may disengage while under load. Broken clutch dogs frequently result from engagement of the clutch at excessive speed with the hopper loaded. If the dog clutches are broken, the clutches must be replaced.

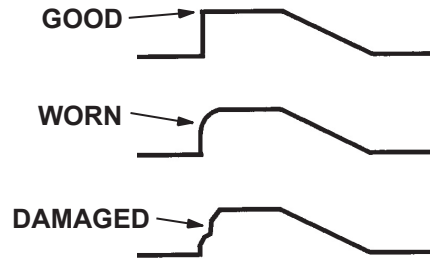
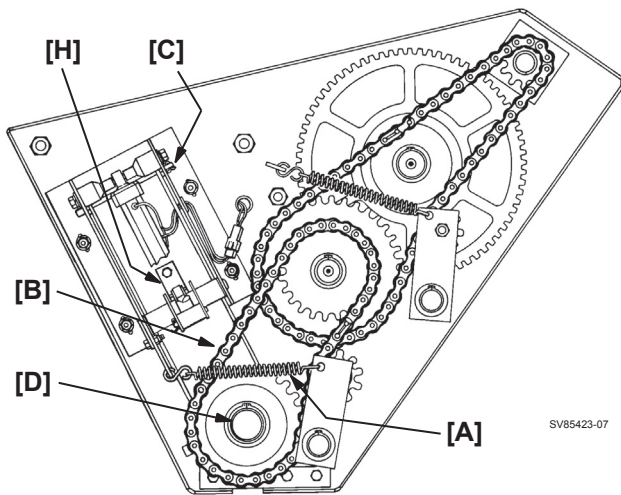


FIGURE 10

SV85423-09

Increasing the spring pressure by adding washers [G] to the clutch, (Refer to Main Clutch Adjustment Section) may compensate for some wear but if disengagement still occurs it will be necessary to replace the clutches.

Step 8. To reassemble the clutch, reverse the steps. After assembly, proceed with Main Clutch and Wear Plate Adjustment (See Next Page).



SV85423-07

MAIN CLUTCH ADJUSTMENT AND WEAR PLATE ADJUSTMENT
(SEE FIGURE 9 AND FIGURE 11)



**To Avoid Serious Injury,
Disconnect the Clutch Electrical Power Source
Before Adjusting the Clutch or Wear Plate.**

Main Clutch Adjustment - The Main Clutch on the Mete-R-Matic III is a ratchet type which is designed to ratchet automatically when the machine is moved backwards. This ratchet motion prevents the conveyor from being driven backwards.

Engagement of the clutch is maintained by a compression spring. Unwanted disengagement of the clutch while under load may be a result of normal wear or from damage to the clutch when engaged at excessive speeds. Compression spring pressure can be increased to stop unwanted disengagement caused by normal wear. Additional washers [G] (Turfco Part Number 499221) will increase the spring pressure to compensate for worn clutch dogs. See FIGURE 9 for placement of additional washers [G]. If the clutch dogs are badly worn or broken, replacement of the clutch dogs will be necessary.

Wear Plate Adjustment - The Wear Plate is the adjustment for proper clutch clearances during engagement and disengagement. Clearance is maintained by shims behind the Wear Plate. Use the following steps for adjustment.

Step 1. Shift the clutch to the engaged position. The clutch dogs should be fully engaged. If they are only partially engaged, adjustment is require. **Disconnect the electrical connection from the power source.** Remove shims from behind wear plate [H] (SEE FIGURE 9) until engagement is attained.

Step 2. Reconnect the electrical connection and shift the clutch to the disengaged position. The clutch dogs should clear by 1/16" to 1/8" inch (1.5 to 3.1 mm) (SEE FIGURE 11). If the dogs do not clear each other, add shims behind the wear plate as necessary to provide proper clearance. **Disconnect the electrical connection from the power source before attempting the add shims.**

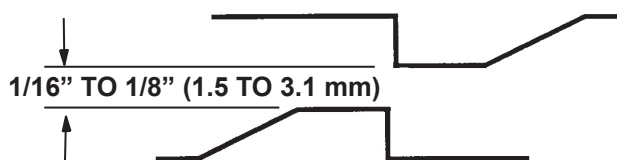


FIGURE 11

SV854230-08

Step 3. Repeat steps 1 and 2 until both conditions are met.

Step 4. To help the clutch perform well, put some thick grease on the clutch throw out bracket at the contact point between the cam and the wear plate.

Step 5. Check the engagement and disengagement of the clutch throw out bracket and other parts in the clutch mechanism as the electric actuator is energized. All parts should move freely and easily as the clutch is actuated in both directions.

Step 6. Put the chain guard back in place.

CHAINS
(SEE FIGURE 12)

The roller chains [1] in the drive train are automatically tensioned by spring [2] loaded idler sprockets [3]. After considerable use, the idlers may not be able to provide adequate tension. If this occurs, the chains should be replaced. The springs should also be replaced if they do not exert the proper force on the idler sprockets. Cleaning and lubricating the drive chains periodically will greatly extend their life.

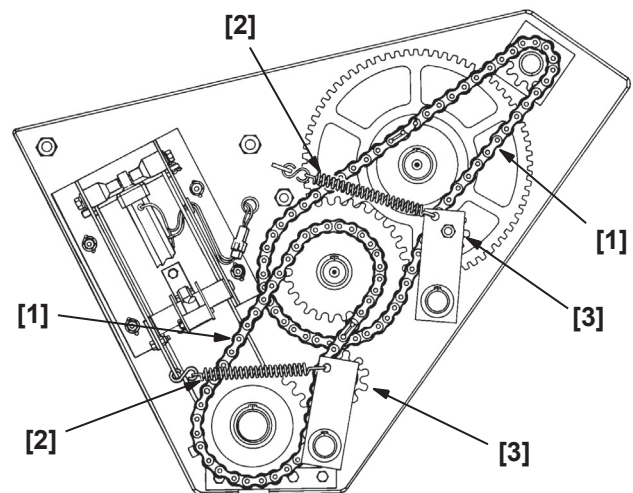


FIGURE 12

SV85423-10

**METERING GATE ADJUSTMENT
(SEE FIGURE 13)**

The metering gate is adjustable forward and backward. If top dressing material is leaking out of the metering gate during transport or normal operation, adjust the metering gate forward.

To assist in the initial assembly of the hopper, the metering gate is factory adjusted to the far backward setting. During assembly, the gate should be adjusted forward.

Use the following steps to properly adjust the metering gate:

- Loosen the two lock nuts [A] that secure the metering gate [B] to the metering gate mounting brackets [C].
- Loosen the four hex nuts [D] that hold the metering gate mounting brackets to the frame.
- Push the metering gate forward until it is snug against the back of the hopper.
- Tighten the four small nuts [D] on the metering gate brackets.
- Tighten the lock nuts [A] on the ends of the metering gate. The lock nuts provide friction so that gate remains in the selected position. If the gate is difficult to move, loosen the lock nut slightly. If the gate moves during operation, the nuts should be tightened. Lock nuts on both ends of the gate should be adjusted uniformly.

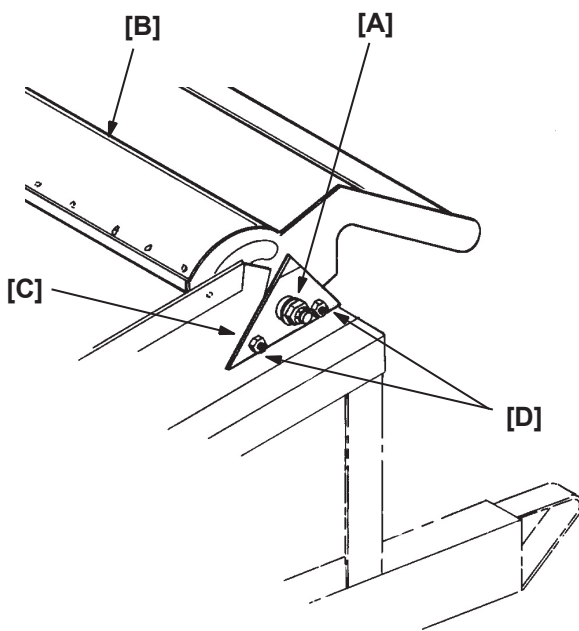


FIGURE 13

SV85423-04

**BRUSH ADJUSTMENT
(SEE FIGURE 14)**

After extended use, the brush may wear and no longer contact the conveyor belt. Eliminate clearance between the conveyor belt and the brush by adjusting the brush forward.

Use the following steps to properly adjust the metering gate:

- With the conveyor belt properly tensioned, loosen screws [1] on the brush shaft bearing retainers [2] and tighten bearing retainer screws
- Move the brush [3] forward until brush bristles contact the conveyor belt. Brush bristles should remain straight. Check that the bristles reach into the low areas of the belt to help dig the top dressing out of the chevron pattern. Ensure that the brush is touching the conveyor belt equally along its entire length.
- Tighten the bearing retainer screws to secure the setting.

Test the brush. The brush may need to be adjusted to suit different types of top dressing materials. If working with dry sand, adjust the brush so that it touches the conveyor belt with enough force to slightly curve the brush bristles. If working with material that has a high clay content, increased brush contact may also be necessary to help dig out material that sticks to the conveyor belt between the chevron patterns.

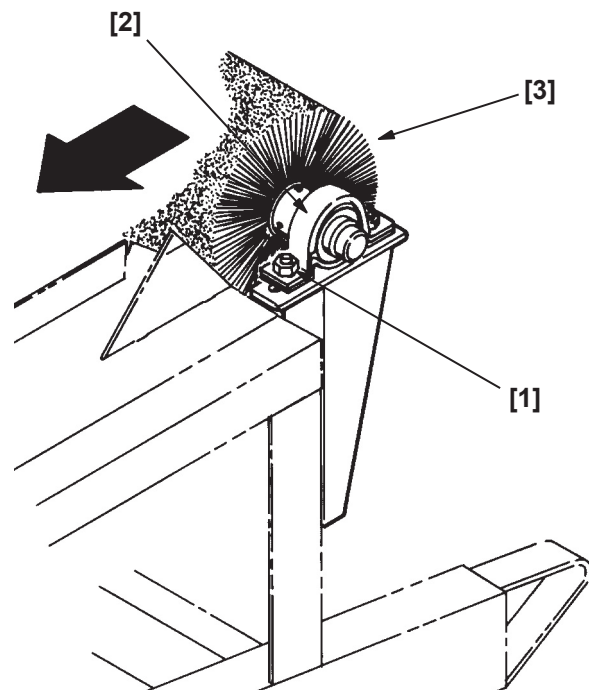


FIGURE 14

SV85423-05

Electrical System Diagrams

Before servicing the control box and the control box cable to correct operating problems, check the following:

- Check the power supply at the tow vehicle. Ensure that the tow vehicle is supplying the proper voltage. Power requirement is 12 Volt DC service.
- Check the tow vehicle battery. If the actuator does not respond, or if it moves slower than normal, the problem may be a weak battery.
- Check the inline fuse in the power supply cable. Proper fuse is a AGC 6 Amp.
- Check maximum current draw of the actuator does not exceed 5.6 amp maximum at 12 Volt DC.
- Check the cable connections to the tow vehicle power source for proper contact.
- Check the polarity at the power source. White wire is positive (+), black wire is ground (-).



To Avoid Serious Injury and To Avoid Damage To the Electrical Components, DISCONNECT THE POWER SUPPLY CABLE FROM THE TOW VEHICLE Before Servicing the Electric Clutch or the Clutch Control Box.

Use the following diagrams and information to service the control box and the control box cable.

WIRING HARNESS (SEE FIGURE 15)

Figure 15 shows the information on color coding of wires and connection points. All electrical connections must be made securely to insure stable electrical

contact. If any problems are noted in the operation of the machine, check the electrical connections and the fuse first. The fuse is a AGC 6 Amp. Also check the connection at the clutch actuator.

CONTROL BOX WIRING DIAGRAM (SEE FIGURE 16)

If the control box switch needs to be replaced or rewired, refer to Figure 16 for proper wiring connections.

Follow the electrical schematic for proper rewiring of the switch. Before reattaching the power supply to the tow vehicle, check the fuse. Check that the "I" and "O" (ON/OFF) position of the switch matches the "I" and "O" positions of the decal, and operates accordingly.

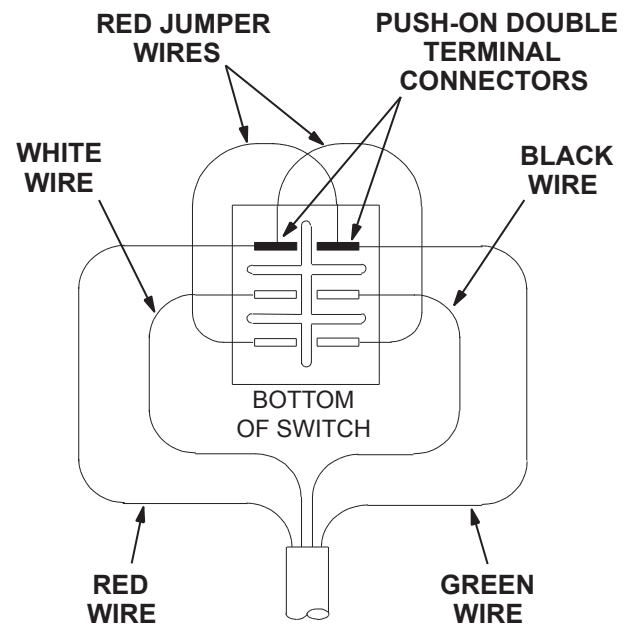


FIGURE 16

SV85423-12

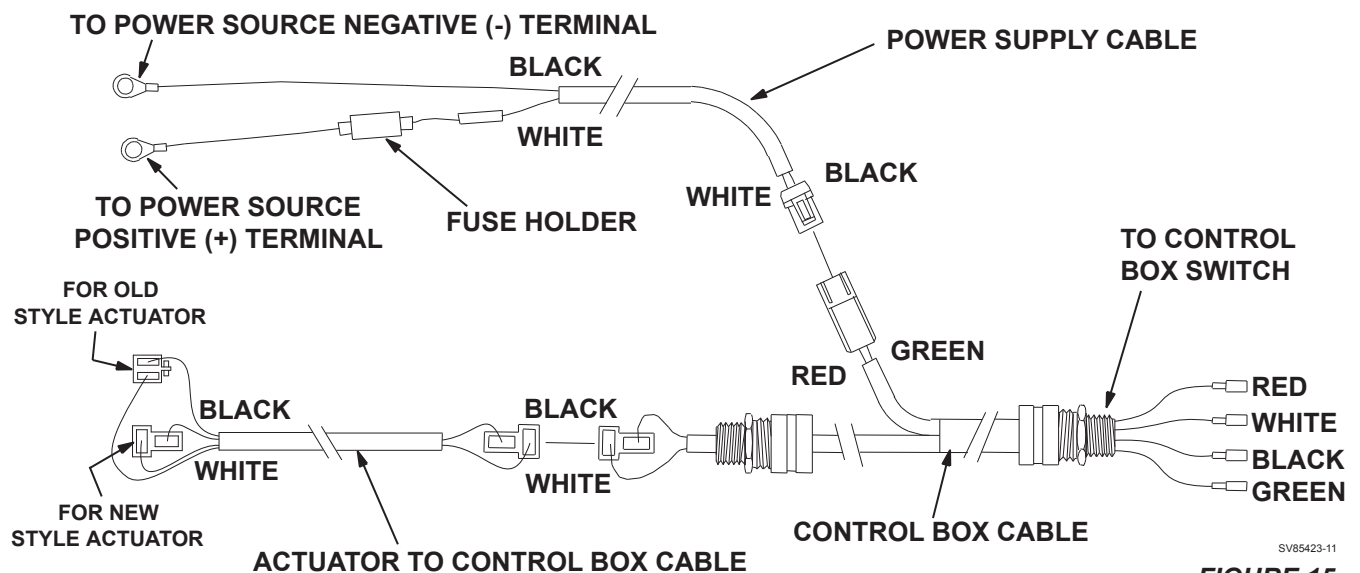
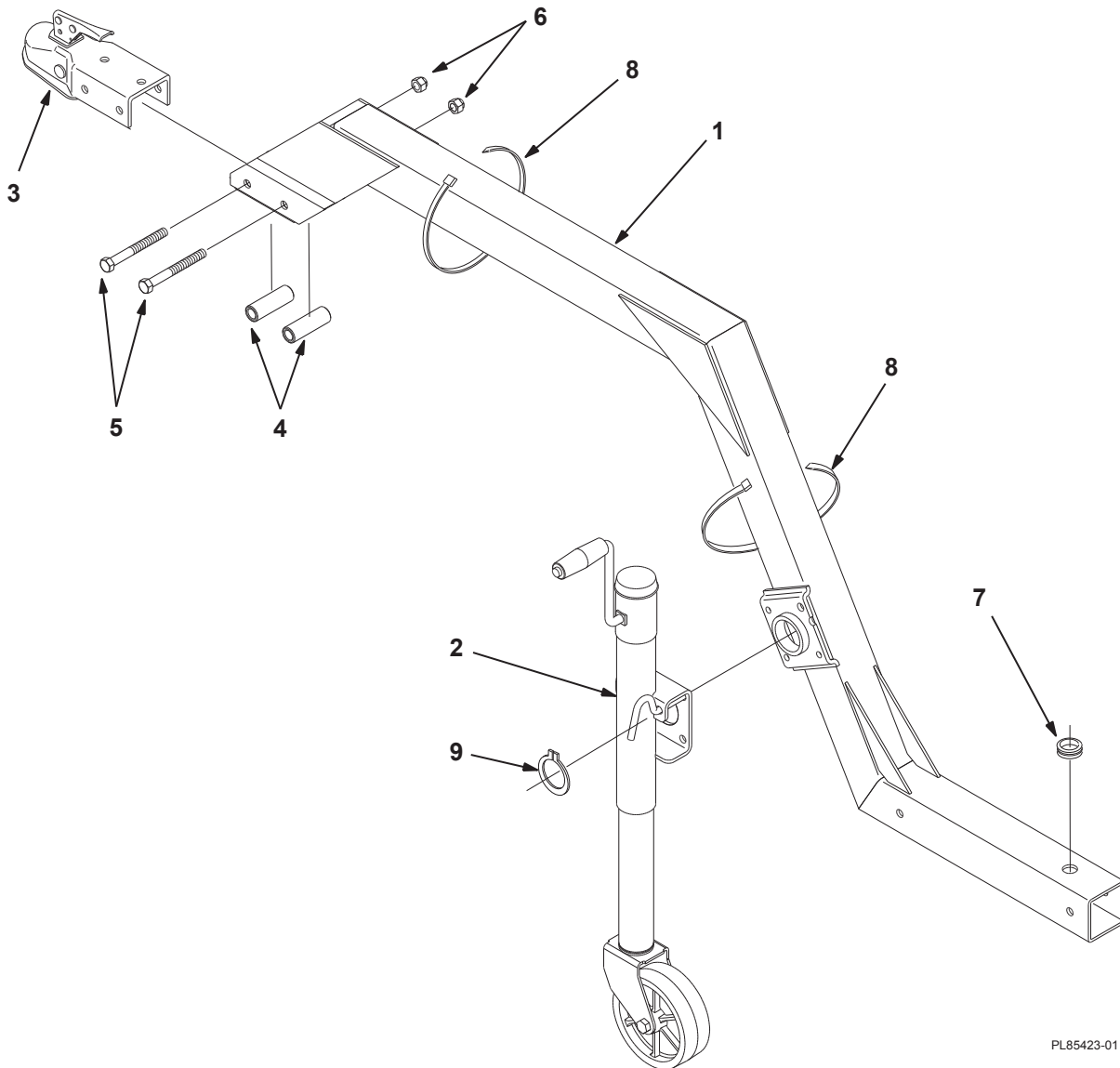


FIGURE 15

SV85423-11

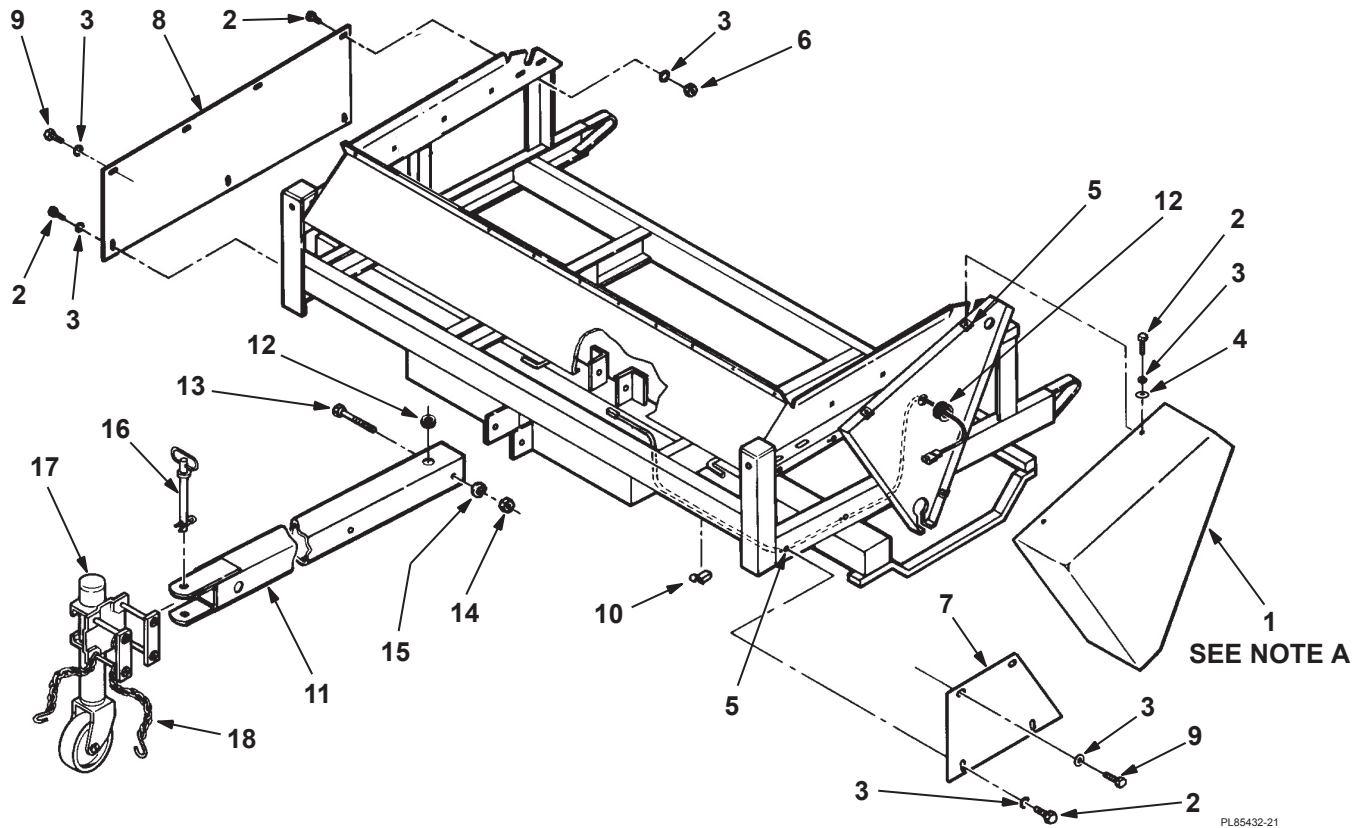
Optional 5th Wheel Hitch - Product Number 86138



PL85423-01

Item No.	Part No.	Description	Qty.
1	662928	Tow Bar, Fifth Wheel	1
2	662930	Jackstand	1
3	657200	Coupler, Trailer, 2" Ball	1
4	657889	Spacer, Tow Bar	2
5	400458	Screw, Hex Head, 1/2"-20 x 4-1/2"	2
6	444816	Nut, Hex, 1/2"-20 Flexloc	2
7	658049	Grommet, Rubber	1
8	658016	Cable Tie, 5/16" x 15-1/4"	2
9	657571	Ring, Retaining, Jackstand (Service Part)	1

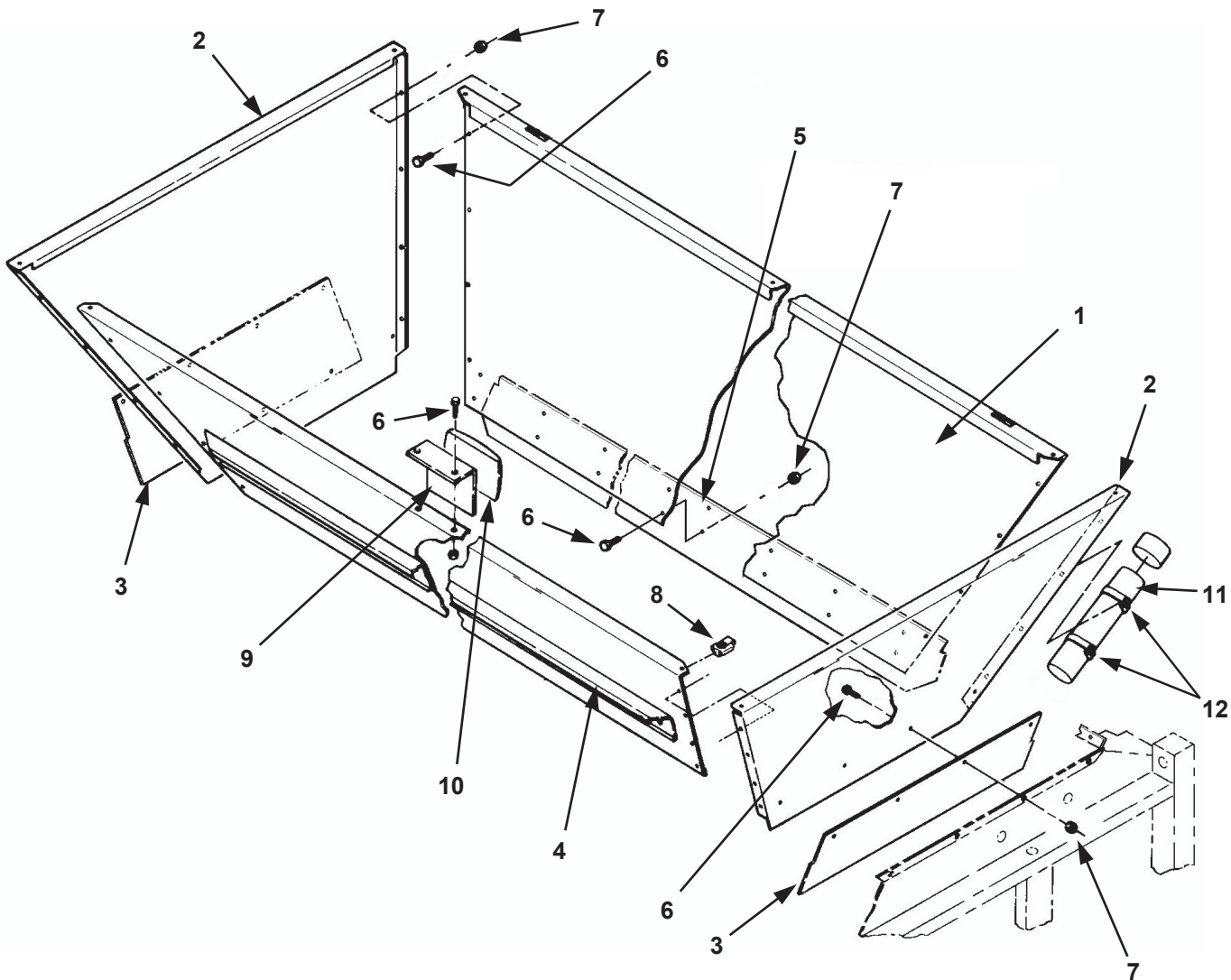
Straight Hitch, Guards and Covers



Item No.	Part No.	Description	Qty.
1	659288	Guard, Side (See Note A)	1
2	400106	Screw, Hex, 1/4"-20 x 5/8"	12
3	446128	Washer, Lock, 1/4"	14
4	452006	Washer, Flat, 3/8" x 7/8" x 5/64"	3
5	499126	Nut, Clip, 1/4"-20	13
6	443102	Nut, Hex, 1/4"-20	1
7	655169	Cover, Left Frame, Front	1
8	657103	Cover, Right Frame	1
9	400104	Screw, Hex, 1/4"-20 x 1/2"	2
10	658256	Clip, Wire	4
11	662449	Tow Bar, Standard (86119) (Control Box Cable NOT INCLUDED)	1
12	658049	Grommet, Rubber	2
13	400458	Screw, Hex, 1/2"-20 x 4-1/2"	2
14	443820	Nut, Jam, 1/2"-20	2
15	446154	Washer, Lock, 1/2"	2
16	659259	Pin, Hitch, 5/8"	1
17	659278	Jackstand Assembly (Complete with Mounting Hardware)	1
18	659279	Chain, Safety, Pair	1

NOTE A: 659288 Side Guard Is a Bolt On Side Guard. Side Guard 658015 With Keeper Latches Is No Longer Available.

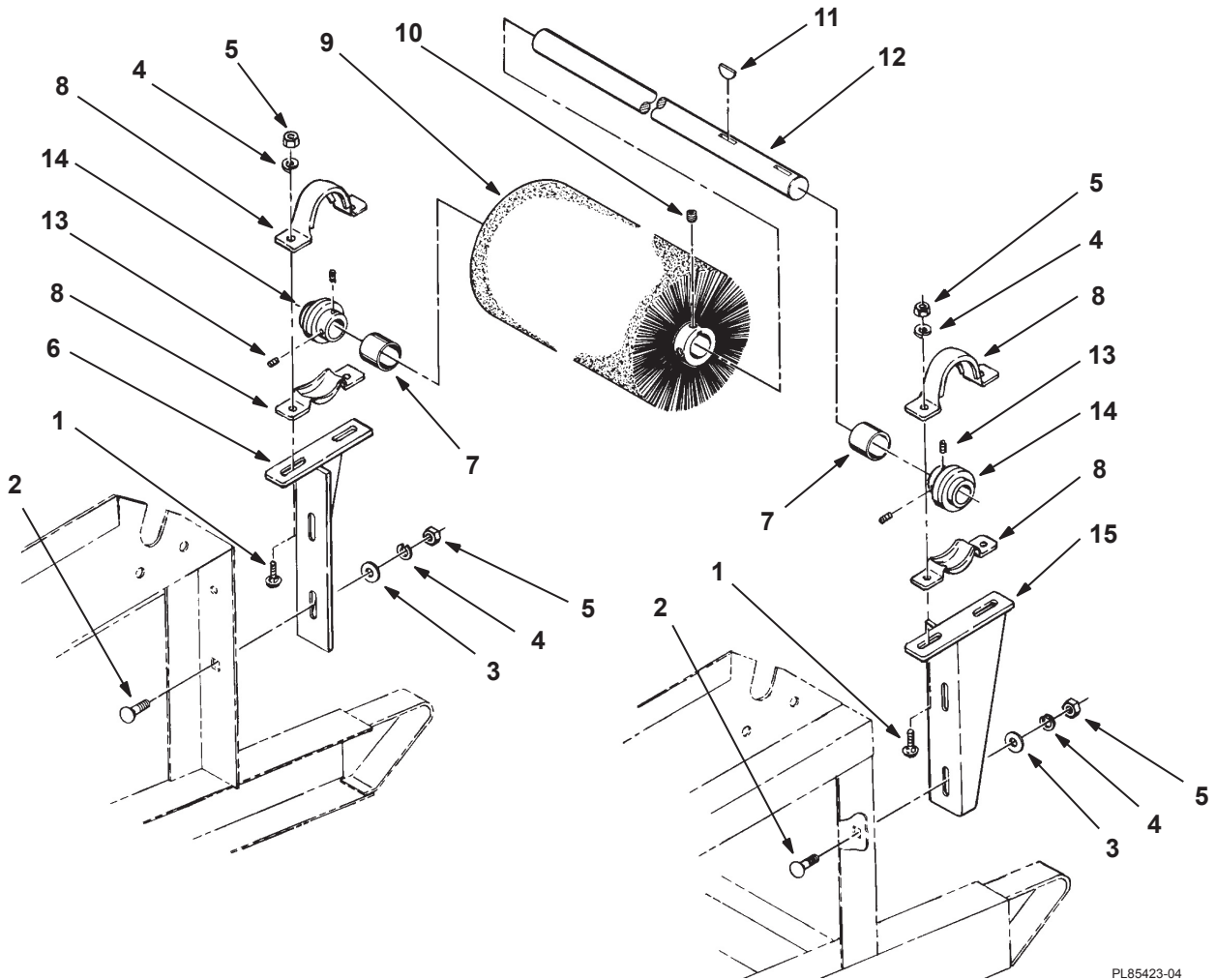
Hopper



PL85423-03

Item No.	Part No.	Description	Qty.
1	655158	Hopper Panel, Front.....	1
2	658802	Hopper Panel, Side.....	2
3	655176	Seal, Hopper Side.....	2
4	655162	Hopper Panel, Rear (Includes Stiffener).....	1
5	655175	Seal, Hopper Front.....	1
6	661619	Screw, Hex, 1/4"-20 x 5/8" Whizlock.....	51
7	661620	Nut, Hex, 1/4"-20 Whizlock.....	49
8	499410	Nut, Clip, 1/4"-20.....	4
9	657966	Mirror Assembly (Includes Mirror and Bracket).....	1
10	657967	Mirror Only.....	1
11	662885	Manual Tube.....	1
12	662901	Clamp, Manual Tube.....	2

Brush

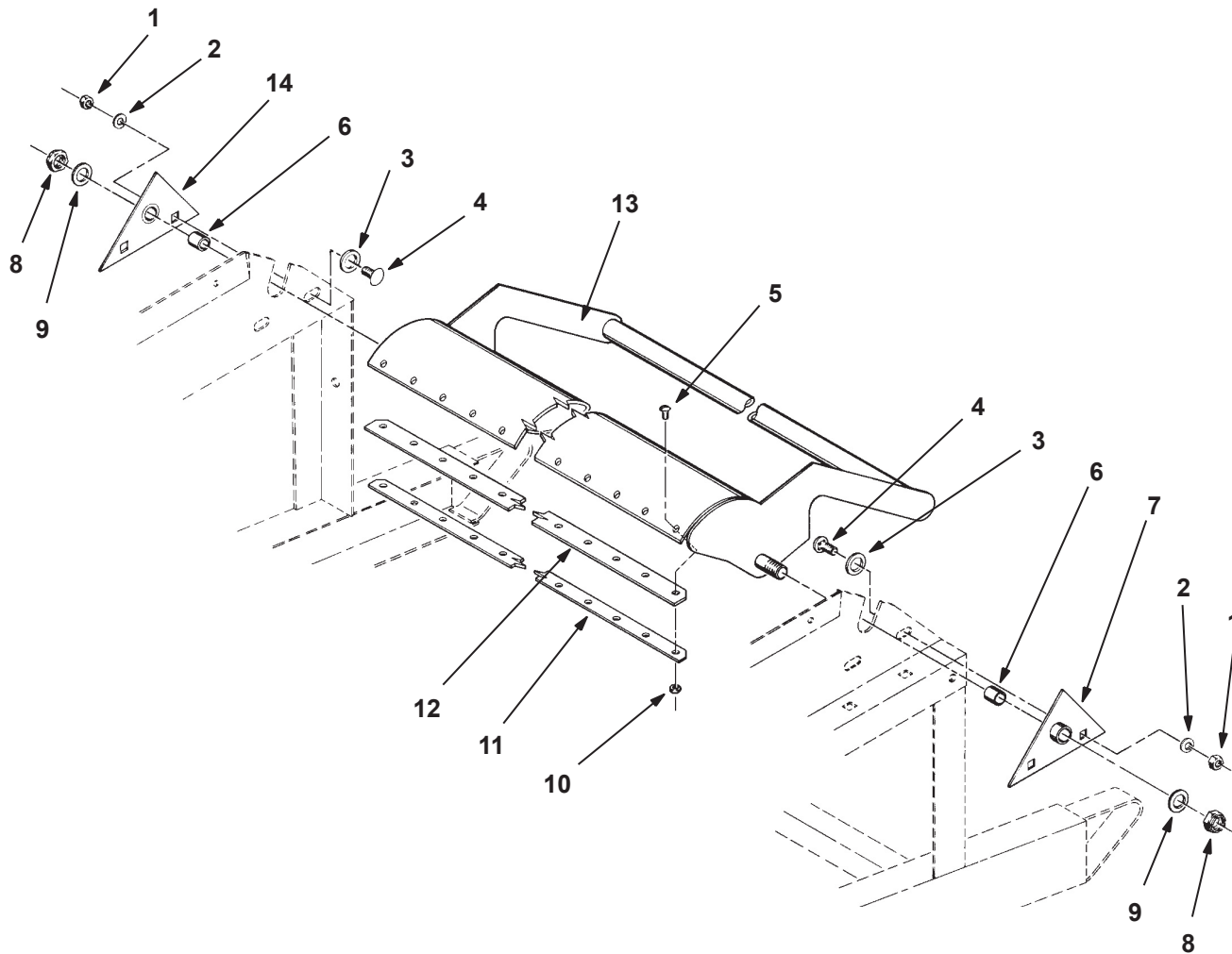


PL85423-04

Item No.	Part No.	Description	Qty.
1	440118	Bolt, Carriage, 3/8"-16 x 1"	4
2	657766	Bolt, Carriage, 3/8"-16 x 3/4"	4
3	452006	Washer, 3/8" x 7/8" x 5/64"	4
4	446142	Washer, Lock, 3/8"	8
5	443110	Nut, Hex, 3/8"-16	8
6	657991	Mounting Bracket, Right Hand, Brush	1
7	655461	Spacer, Brush	2
8	664142	Cover and Base, Bearing Retainer	2
9	653391	Brush (Includes Item 10)	1
10	415553	Screw, Set, 5/16"-18 x 5/16"	4
11	463021	Key, Woodruff, 1/4" x 7/8"	1
12	653394	Shaft, Brush	1
13	499051*	Screw, Set, 1/4"-28 x 1/4"	4
14	650808	Bearing (Includes Item 13)	2
15	657990	Mounting Bracket, Left Hand, Brush	1

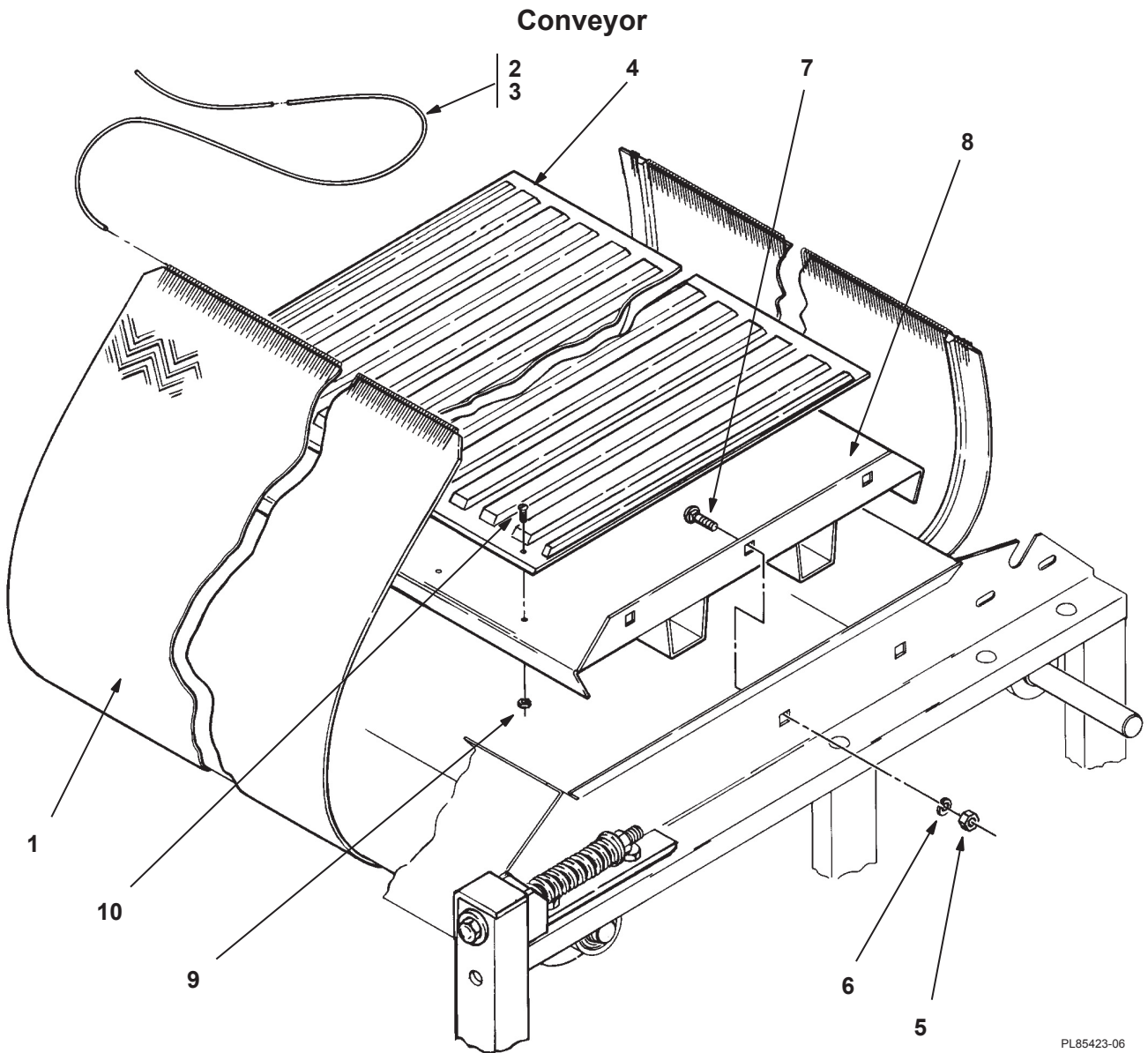
*May Not Fit All 650808 Bearings

Metering Gate



PL85423-05

Item No.	Part No.	Description	Qty.
1	443110	Nut, Hex, 3/8"-16.....	4
2	446142	Washer, Lock, 3/8".....	4
3	499436	Washer, 1/2" x 1-3/4" x 5/64".....	2
4	657766	Bolt, Carriage, 3/8"-16 x 3/4".....	4
5	499335	Screw, Truss Head., No. 10-24 x 3/4" (Replacement For Rivet).....	31
6	650780	Bearing, Oilite.....	2
7	655104	Support Bracket, Metering Gate, Left Hand (Includes Item 6).....	1
8	444828	Nut, Thin Self Locking, 3/4"-16.....	2
9	499074	Washer, 49/64" x 1-5/16" x 3/64".....	2
10	499244	Nut, KEPS, No. 10-24 (Replacement For Rivet).....	31
11	655123	Strip, Metal.....	1
12	655122	Strip, Rubber.....	1
13	655121	Gate, Metering (Includes Items 11 and 12).....	1
14	655103	Support Bracket, Metering Gate, Right Hand (Includes Item 6).....	1

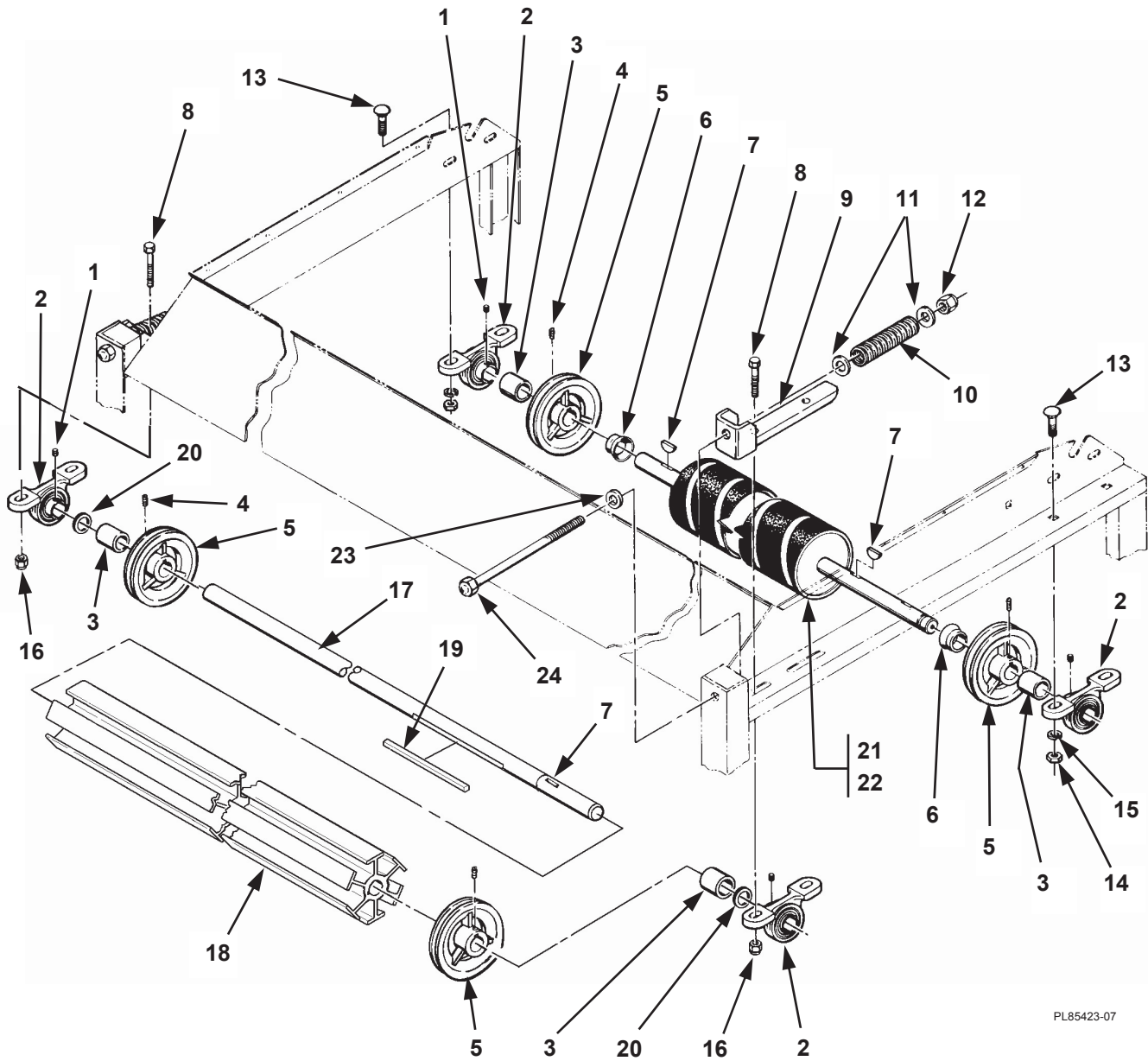


PL85423-06

Item No.	Part No.	Description	Qty.
1	657910	Conveyor Belt (Includes Item 2 and 3).....	1
2	655363	Splice	1
3	655364	Sealer, Silicon	1
4	658037	Cover, Pan	1
5	443110	Nut, Hex, 3/8"-16.....	6
6	446142	Washer, Lock, 3/8"	6
7	657766	Bolt, Carriage, 3/8"-16 x 3/4".....	6
8	657919	Pan.....	1
9	499413	Nut, KEPS, 1/4"-20 (Replaces Rivet).....	12
10	499025	Screw, Pan Head, 1/4"-20 x 5/8" (Replaces Rivet)	12

Important: Use silicon sealer (655364) to seal the splice after replacing the conveyor belt. Use silicon sealer as necessary to maintain the seal at the splice. Silicon seal prevents top dressing material from accumulating on the rollers.

Rollers



PL85423-07

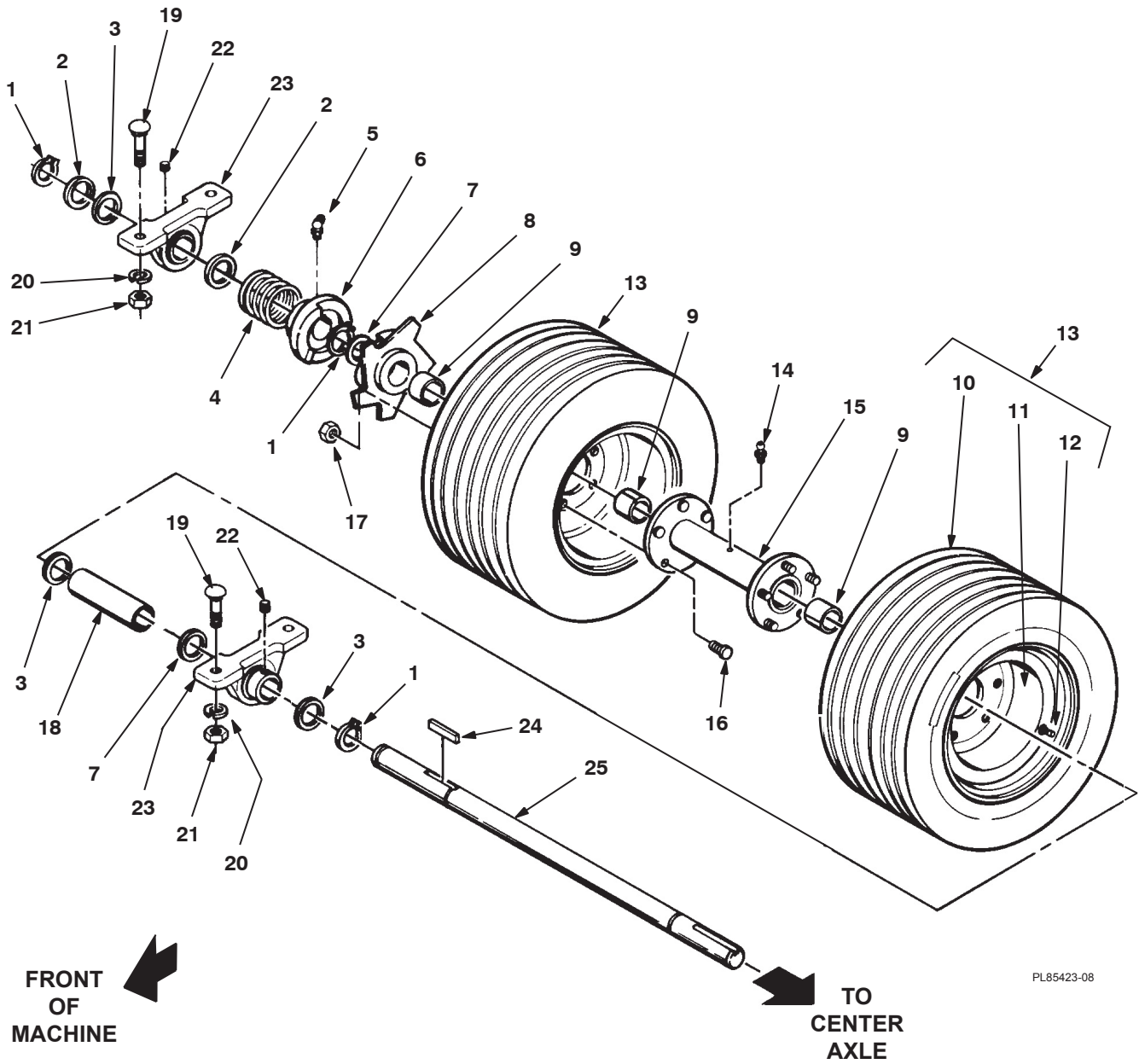
Rollers

Item No.	Part No.	Description	Qty.
1	499051*	Screw, Set, 1/4"-28 x 1/4".....	4
2	665509	Bearing, Pillow Block (Includes Set Screw, Item 1).....	4
3	657999	Spacer, Roller.....	4
4	415517**	Screw, Set, 5/16"-18 x 1/4".....	4
5	657964	Pulley (Includes Item 4).....	4
6	657998	Spacer, Flared.....	2
7	463031	Key, Woodruff, 1/4" x 1".....	4
8	400444	Screw, Hex, 1/2"-20 x 1-3/4".....	4
9	658073	Sliding Plate, Belt Tensioner.....	2
10	657985	Spring, Compression.....	2
11	499024	Washer, 41/64" x 1-3/16" x 1/16".....	4
12	499432	Nut, Self Locking, 5/8"-11.....	2
13	440194	Bolt, Carriage, 1/2"-13 x 1-1/2".....	4
14	443118	Nut, Hex, 1/2"-13.....	4
15	446154	Washer, Lock, 1/2".....	4
16	444816	Nut, Self Locking, 1/2"-20.....	4
17	659456	Shaft, Idler Roller (Front).....	1
18	659262	Idler Roller, Front, Aluminum Extrusion.....	1
19	659457	Key, Square, 1/4" x 6".....	1
20	499164	Washer, Flat, 1-17/64" x 2" x 3/32".....	2
21	657944	Roller, Drive (Rear).....	1
22	657965	Tape, 3M Brand, 2" Safety Walk, Medium.....	30' Ft.
23	499079	Washer, Flat, 41/64" x 1-3/4" x 3/16".....	2
24	658070	Bolt, Belt Tensioner.....	2

*May Not Fit All 665509 Bearings

**May Not Fit All 657964 Pulleys

Right Axle



FRONT OF MACHINE

TO CENTER AXLE

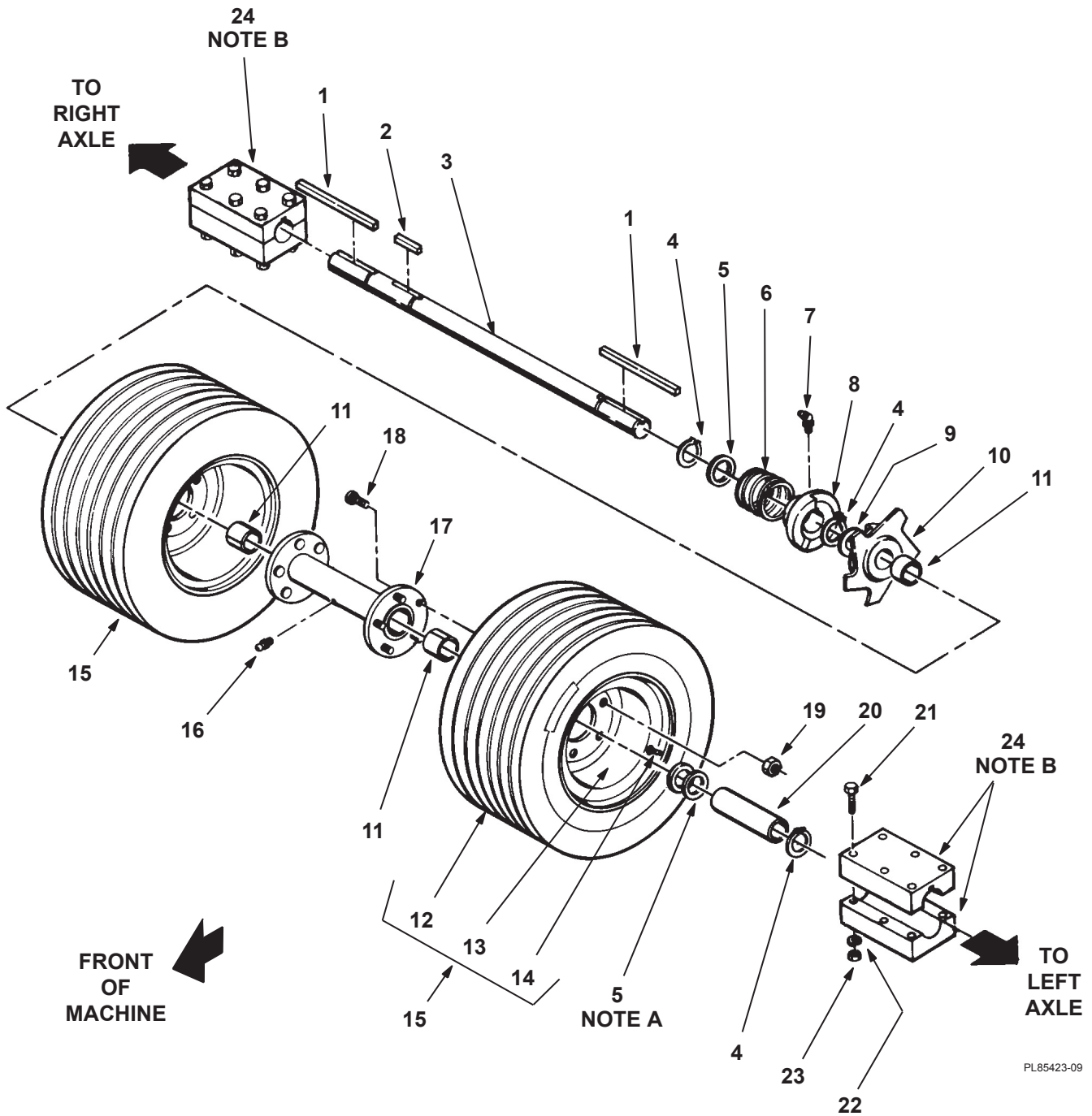
PL85423-08

Right Axle

Item No.	Part No.	Description	Qty.
1	458035	Ring, Retaining, 1-1/4" External.....	3
2	499221	Washer, 1-9/32" x 1-7/8" x 9/64".....	2
3	499223	Washer, 1-9/32" x 1-7/8" x 3/64".....	3
4	654738	Spring, Dog Clutch.....	1
5	471215	Fitting, Grease, 1/4"-28, 45° Degree.....	1
6	654932	Clutch, Wheel.....	1
7	499164	Washer, 1-17/64" x 2" x 3/32".....	2
8	654936	Driver, Wheel Clutch (Includes Oilite Bearing, Item 9).....	1
9	655362	Bearing, Oilite.....	3
10	655146	Tire, 16 x 6.50 - 8.....	2
11	655147	Rim.....	2
12	651285	Valve Stem.....	2
13	655145	Wheel (Includes Items 10, 11, and 12).....	2
14	471214	Fitting Grease, 1/4"-28 Straight.....	1
15	654924	Wheel Hub Assembly (Includes Items 9, 14, and 16).....	1
16	499404	Bolt, Lug.....	10
17	499405	Nut, Lug.....	10
18	653392	Spacer, Axle.....	1
19	440194	Bolt, Carriage. 1/2"-13 x 1-1/2".....	4
20	446154	Washer, Lock, 1/2".....	4
21	443118	Nut, Hex, 1/2"-13.....	4
22	499051*	Screw, Set, 1/4"-28 x 1/4".....	4
23	665509	Bearing, Pillow Block (Includes Set Screw, Item 22).....	2
24	499154	Key, 1/4" x 1/4" x 1-1/2".....	1
25	656962	Axle, Right.....	1

*May Not Fit All 665509 Bearings

Center Axle



PL85423-09

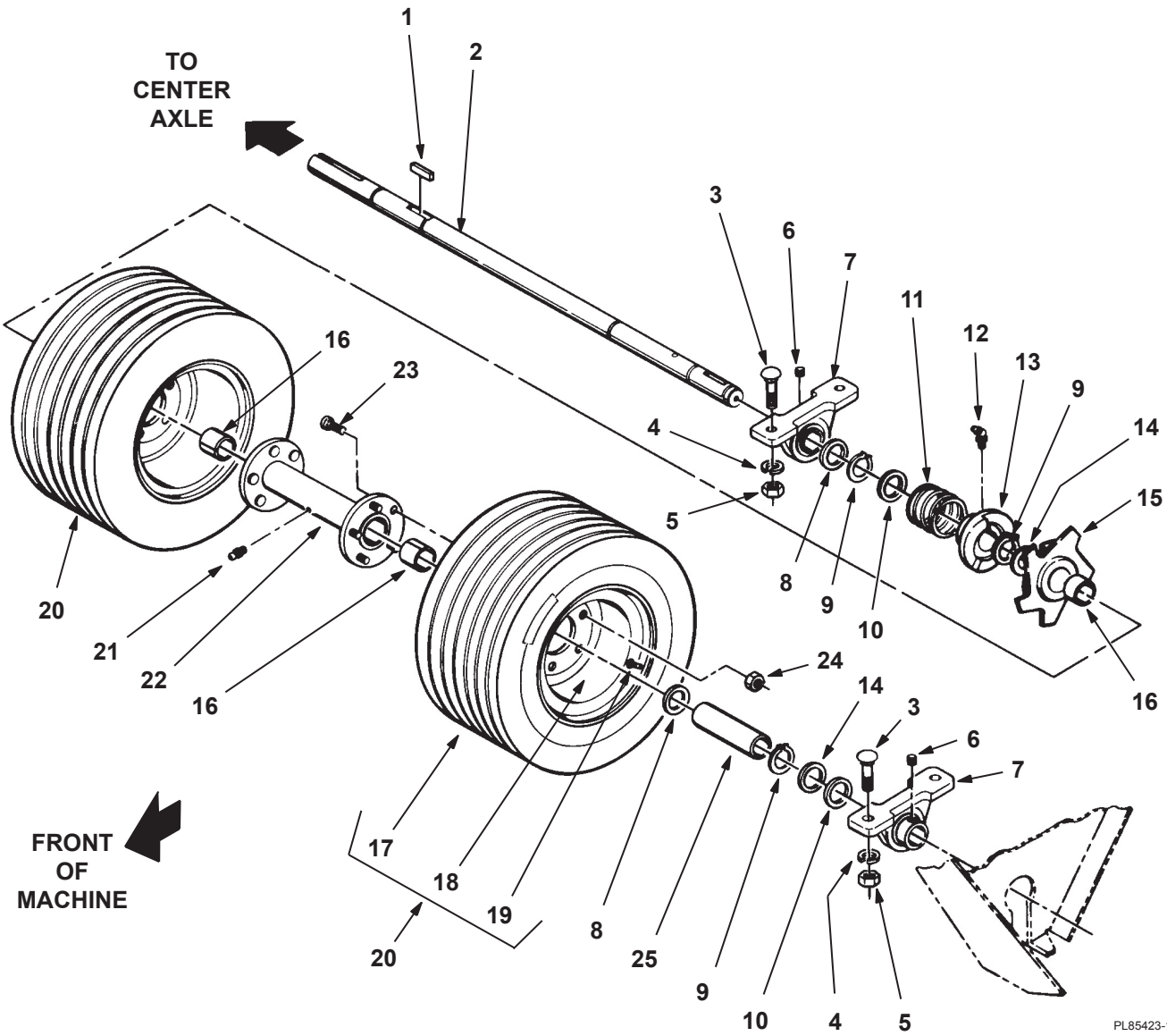
Center Axle

Item No.	Part No.	Description	Qty.
1	657054	Key, 1/4" x 1/4" x 5"	2
2	499154	Key, 1/4" x 1/4" x 1-1/2"	1
3	656963	Axle, Center	1
4	458035	Ring, Retaining, 1-1/4" External	3
5	499223	Washer, 1-9/32" x 1/7/8" x 3/64"	Note A
6	654738	Spring, Dog Clutch	1
7	471215	Fitting, Grease, 1/4"-28 x 45 Degree.....	1
8	654932	Clutch, Wheel.....	2
9	499164	Washer, 1-17/64" x 2" x 3/32"	1
10	654936	Driver, Wheel Clutch (Includes Oilite Bearing, Item 11)	1
11	655362	Bearing, Oilite.....	3
12	655146	Tire, 16 x 6.50 - 8	2
13	655147	Rim.....	2
14	651285	Valve Stem	2
15	655145	Wheel (Includes Items 12, 13, and 14)	2
16	471214	Fitting, Grease, 1/4"-28 Straight.....	1
17	654924	Wheel Hub Assembly (Includes Items 11, 16, and 18).....	1
18	499404	Bolt, Lug	10
19	499405	Nut, Lug.....	10
20	654931	Spacer, Axle	1
21	400312	Screw, Hex, 3/8"-24 x 3"	6
22	446142	Washer, Lock, 3/8"	6
23	443112	Nut, Hex, 3/8"-24	6
24	Note B	Coupling, Axle, (Includes Items 21, 22 and 23).....	2

Note A: Use as many washers as necessary to minimize the gap between the Retaining Ring (Item 4) and the Axle Spacer (Item 20).

Note B: The entire coupling must be replaced as a unit. Order 657651 Axle Coupling. Do not mix the blocks of one coupling with another coupling. Replacement couplings are shipped with temporary shims between the blocks; remove and discard the shims before assembly. Make certain the axles are butted together and aligned properly with the key before tightening. Tighten the bolts evenly in an "X" pattern to Torque to 33 Ft-Lbs. (400 In-Lbs or 45 Newton-Meters).

Left Axle



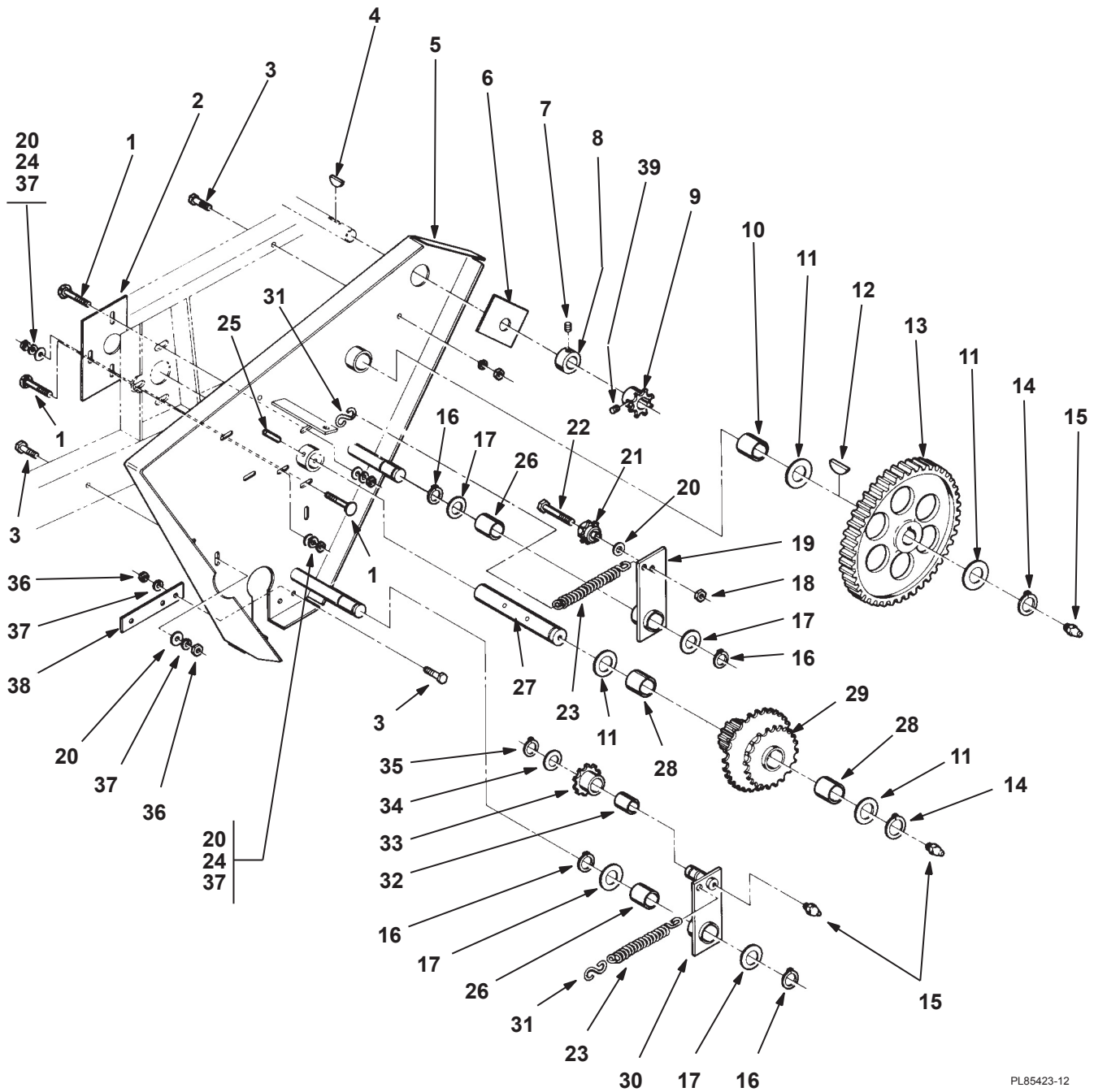
PL85423-10

Left Axle

Item No.	Part No.	Description	Qty.
1	499154	Key, 1/4" x 1/4" x 1-1/2"	1
2	656964	Axle, Left	1
3	440194	Bolt, Carriage. 1/2"-13 x 1-1/2"	4
4	446154	Washer, Lock, 1/2"	4
5	443118	Nut, Hex, 1/2"-13	4
6	499051*	Screw, Set, 1/4"-28 x 1/4"	4
7	665509	Bearing, Pillow Block (Includes Set Screws, Item 6).....	2
8	499223	Washer, 1-9/32" x 1-7/8" x 3/64"	2
9	458035	Ring, Retaining, 1-1/4" External	3
10	499221	Washer, 1-9/32" x 1-7/8" x 9/64"	2
11	654738	Spring, Dog Clutch	1
12	471215	Fitting, Grease, 1/4"-28, 45° Degree	1
13	654932	Clutch, Wheel	1
14	499164	Washer, 1-17/64" x 2" x 3/32"	2
15	654936	Driver, Wheel Clutch (Includes Oilite Bearing, Item 16).....	1
16	655362	Bearing, Oilite.....	3
17	655146	Tire, 16 x 6.50 - 8	2
18	655147	Rim.....	2
19	651285	Valve Stem	2
20	655145	Wheel (Includes Items 17, 18, and 19)	2
21	471214	Fitting Grease, 1/4"-28 Straight.....	1
22	654924	Wheel Hub Assembly (Includes Items 16, 21, and 23)	1
23	499404	Bolt, Lug	10
24	499405	Nut, Lug.....	10
25	654931	Spacer, Axle	1

*May Not Fit All 665509 Bearings

Drive Train



PL85423-12

NOTE: Refer to the Parts List For the 86145 Tournament Kit (in this manual) For Machines Equipped With the Tournament Kit.

Drive Train

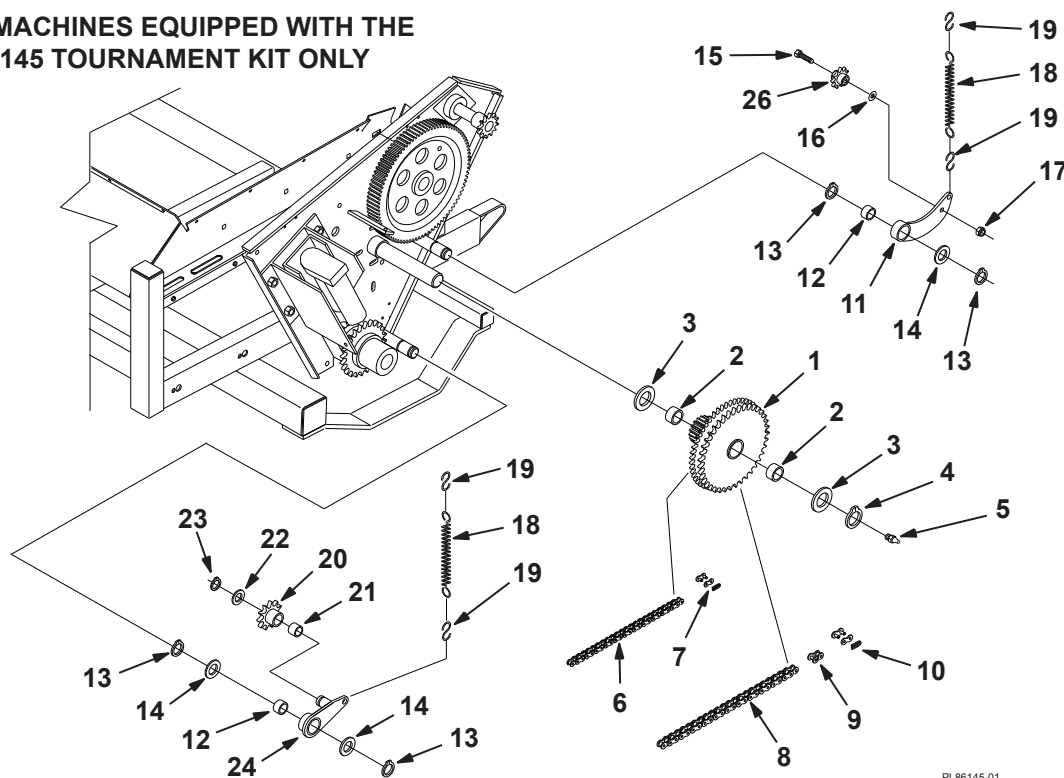
Item No.	Part No.	Description	Qty.
1	441632	Bolt, Carriage, 3/8"-16 x 2-1/4".....	3
2	655732	Plate, Pinion Shaft.....	1
3	400298	Screw, Hex, 3/8"-24 x 1".....	5
4	463021	Key, Woodruff, 1/4" x 7/8".....	1
5	655724	Backup Plate (Includes Item 10).....	1
6	653396	Seal, Brush Shaft.....	1
7	415553*	Screw, Set, 5/16"-18 x 5/16".....	1
8	650631	Collar, Set (Includes Set Screw, Item 7).....	1
9	655197	Sprocket, 12 Tooth (Includes Set Screw, Item 39).....	1
10	655754	Bearing, Oilite.....	1
11	499164	Washer, 1-17/64" x 2" x 3/32".....	4
12	463031	Key, Woodruff, 1/4" x 1".....	1
13	655736	Gear, 88 Tooth.....	1
14	458035	Ring, Retaining, 1-1/4" External.....	2
15	471214	Fitting, Grease, 1/4"-28 Straight.....	3
16	458021	Ring, Retaining, 1" External.....	4
17	499128	Washer, 1-1/64" x 1-3/4" x 3/64".....	4
18	444760	Nut, Thin Self Locking, 3/8"-24.....	1
19	655715	Arm Assembly, Idler (Includes Oilite Bearing, Item 26).....	1
20	452006	Washer, 3/8" x 7/8" x 5/64".....	6
21	650811	Sprocket, Idler.....	1
22	400304	Screw, Hex, 3/8"-24 x 1-3/4".....	1
23	656803	Spring, Extension.....	2
24	443110	Nut, Hex, 3/8"-16.....	3
25	499054	Pin, Spring, 3/16" x 1-5/8".....	1
26	654996	Bearing, Oilite.....	2
27	655733	Dead Shaft.....	1
28	655362	Bearing, Oilite.....	2
29	655728	Double Sprocket Assembly (Includes Oilite Bearing, Item 28).....	1
30	655712	Arm Assembly, Idler (Includes Oilite Bearing, Item 26).....	1
31	657995	S-Hook.....	2
32	654995	Bearing, Oilite.....	1
33	655064	Sprocket, 11 Tooth (Includes Oilite Bearing, Item 32).....	1
34	499428	Washer, 57/64" x 1-1/2" x 3/64".....	1
35	499045	Ring, Retaining, 7/8" External.....	1
36	443112	Nut, Hex, 3/8"-24.....	8
37	446142	Washer, Lock, 3/8".....	9
38	655740	Stiffener, Backup Plate.....	1
39	415509**	Screw, Set, 1/4"-20 x 1/4".....	2

*May Not Fit All 650631 Set Collars

** May Not Fit All 655197 Sprockets

86145 Tournament Kit

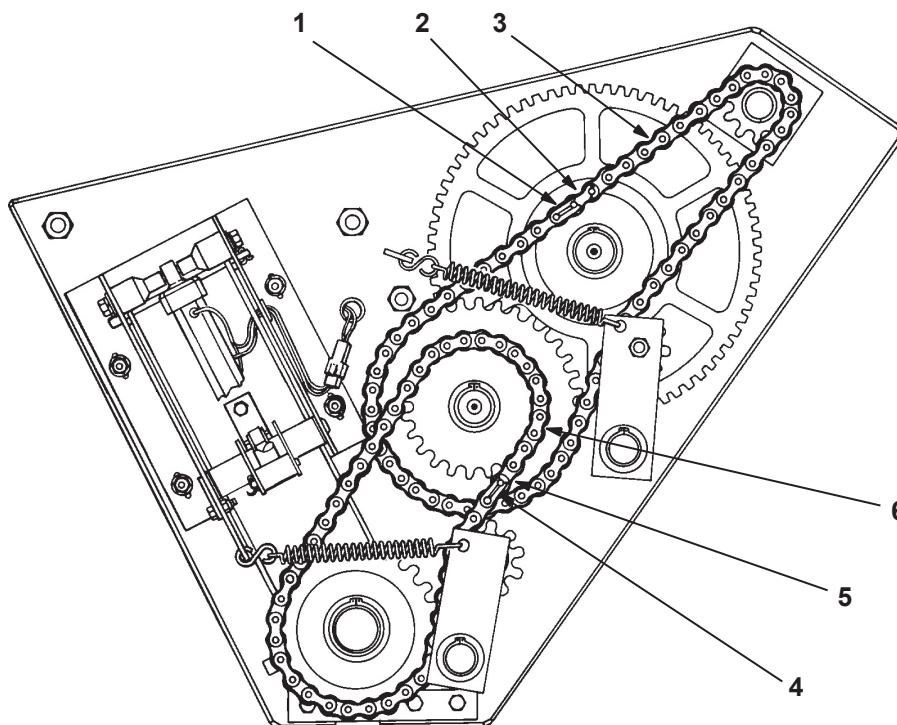
FOR MACHINES EQUIPPED WITH THE
86145 TOURNAMENT KIT ONLY



PL86145-01

Item No.	Part No.	Description	Qty.
1	660501	Double Sprocket Assembly, Tournament Kit (Includes Oilite Bearing, Item 2).....	1
2	655362	Oilite, Bearing.....	2
3	499164	Washer, 1-17/64" x 2" x 3/32".....	2
4	458035	Ring, Retaining, 1-1/4" External.....	2
5	471214	Fitting, Grease, 1/4"-28 Straight.....	3
6	660512	Chain, RC-40 x 88 Pitch, Brush Drive (Includes Master Link, Item 7)	1
7	650703	Link, Master, RC-40.....	1
8	660513	Chain, RC-50 x 59 Pitch, Conveyor Drive (Includes Master Link and Half Link, Items 9 and 10).....	1
9	470515	Link, Offset (Half), RC-50.....	1
10	650013	Link, Master, RC-50.....	1
11	660509	Idler Arm, Brush Drive (Includes Oilite Bearing, Item 12).....	1
12	654996	Bearing, Oilite.....	2
13	458021	Ring, Retaining, 1" External.....	4
14	499128	Washer, 1-1/64" x 1-3/4" x 3/64".....	3
15	400302	Screw, Hex, 3/8"-24 x 1-1/2".....	1
16	452006	Washer, 3/8" x 7/8" x 5/64".....	6
17	444760	Nut, Thin Self Locking, 3/8"-24.....	1
18	656803	Spring, Return Idler Arm.....	2
19	657995	S-Hook.....	4
20	655064	Sprocket Assembly (Includes Oilite Bearing, Item 21).....	1
21	654995	Bearing, Oilite.....	1
22	499428	Washer, 5/64" x 1-1/2" x 3/64".....	1
23	499045	Ring, Retaining, 7/8" External.....	1
24	660510	Idler Arm, Conveyor Belt Drive (Includes Oilite Bearing, Item 12).....	1
25	650811	Sprocket, Idler.....	1

Chains

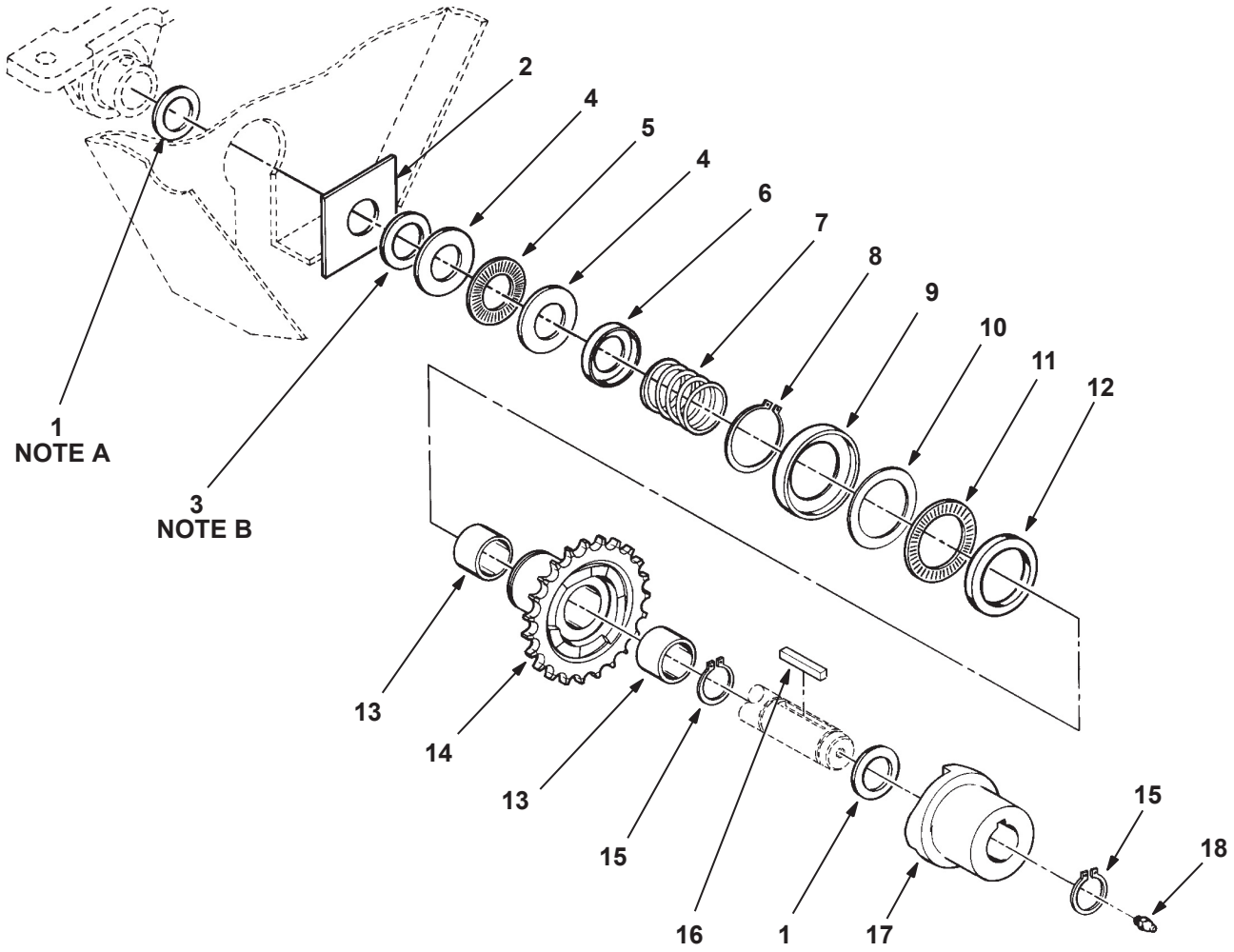


PL85423-16

NOTE: For Machines Equipped With the Tournament Kit, Refer to the 86145 Tournament Kit Parts List (in this manual) For Tournament Kit Chains.

Item No.	Part No.	Description	Qty.
1	650703	Link, Master, RC-40	1
2	470513	Link, Offset (Half), RC-40	1
3	658012	Chain, RC-40 x 85 Pitches (Includes Items 1 and 2)	1
4	650013	Link, Master, RC-50	1
5	470515	Link, Offset (Half), RC-50	1
6	655764	Chain, RC-50 x 53 Pitches (Includes Items 4 and 5)	1

Jaw Clutch



PL85423-11

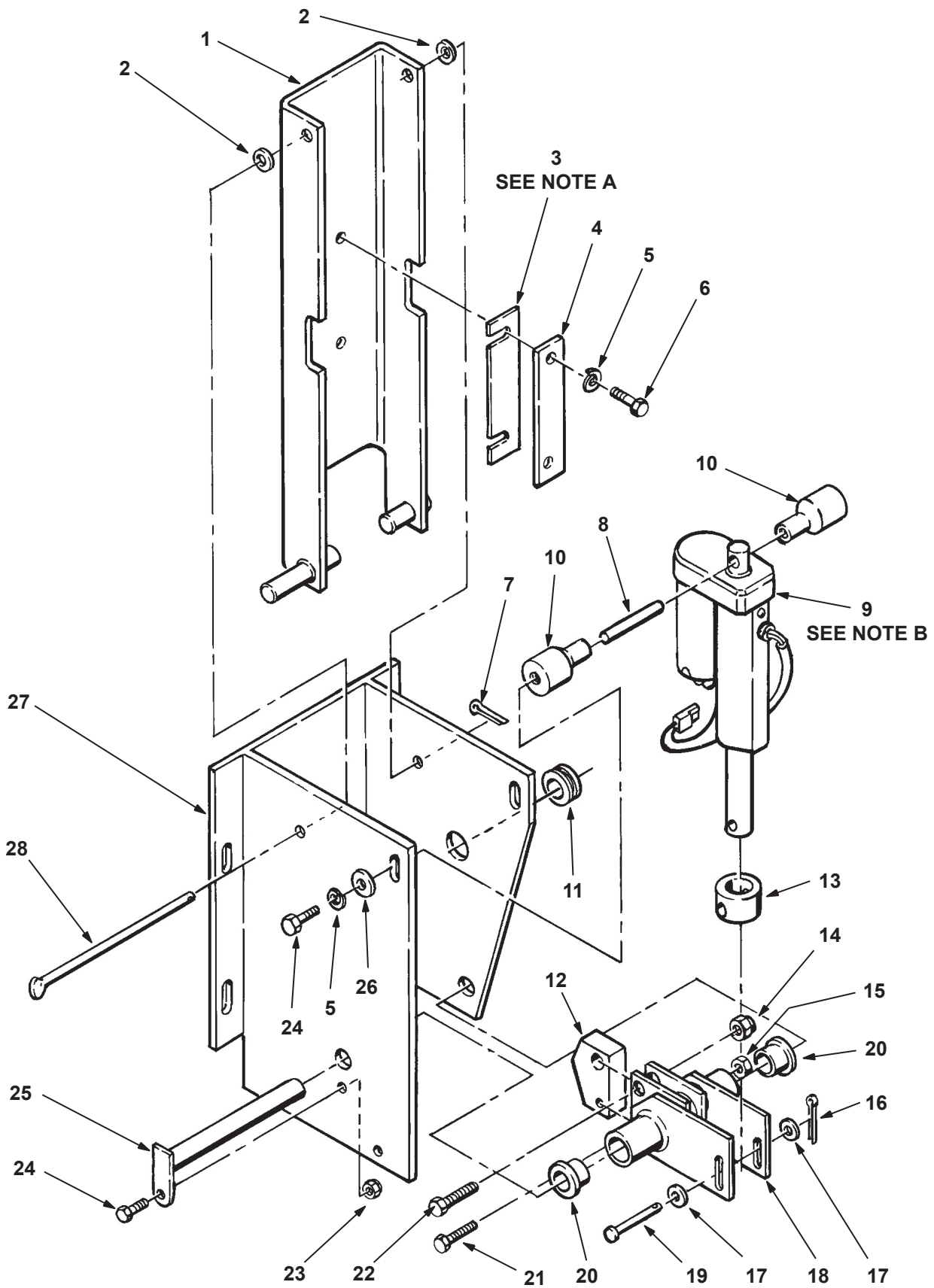
Jaw Clutch

Item No.	Part No.	Description	Qty.
1	499164	Washer, 1-17/64" x 2" x 3/32".....	Note A
2	655205	Washer, Labyrinth (Square)	1
3	499221	Washer, 1-9/32" x 1-7/8" x 9/64"	Note B
4	651293	Washer, Thrust.....	2
5	651292	Bearing, Thrust.....	1
6	660286	Bushing, Spring Guide	1
7	651081	Spring, Compression, Dog Clutch.....	1
8	499402	Ring, Retaining, 2" External	1
9	655355	Washer, Cupped	1
10	655155	Washer, Thrust.....	1
11	655154	Bearing, Thrust.....	1
12	655156	Washer, Thrust.....	1
13	655459	Bearing, Oilite.....	2
14	655151	Clutch, Driven (Includes Oilite Bearing, Item 13)	1
15	458035	Ring, Retaining, 1-1/4" External	2
16	499154	Key, 1/4" x 1/4" x 1-1/2"	1
17	654932	Clutch, Driver	1
18	471214	Fitting, Grease, 1/4"-28 Straight.....	1

Note A: Use as many washers (Item 1) as necessary to insure 1/32" to 1/16" (0.8 mm to 1.6 mm) clearance between the square washer (Item 2) and the backup plate.

Note B: Use as many washers as necessary to provide the proper spring pressure.

Clutch Box



PL85423-13

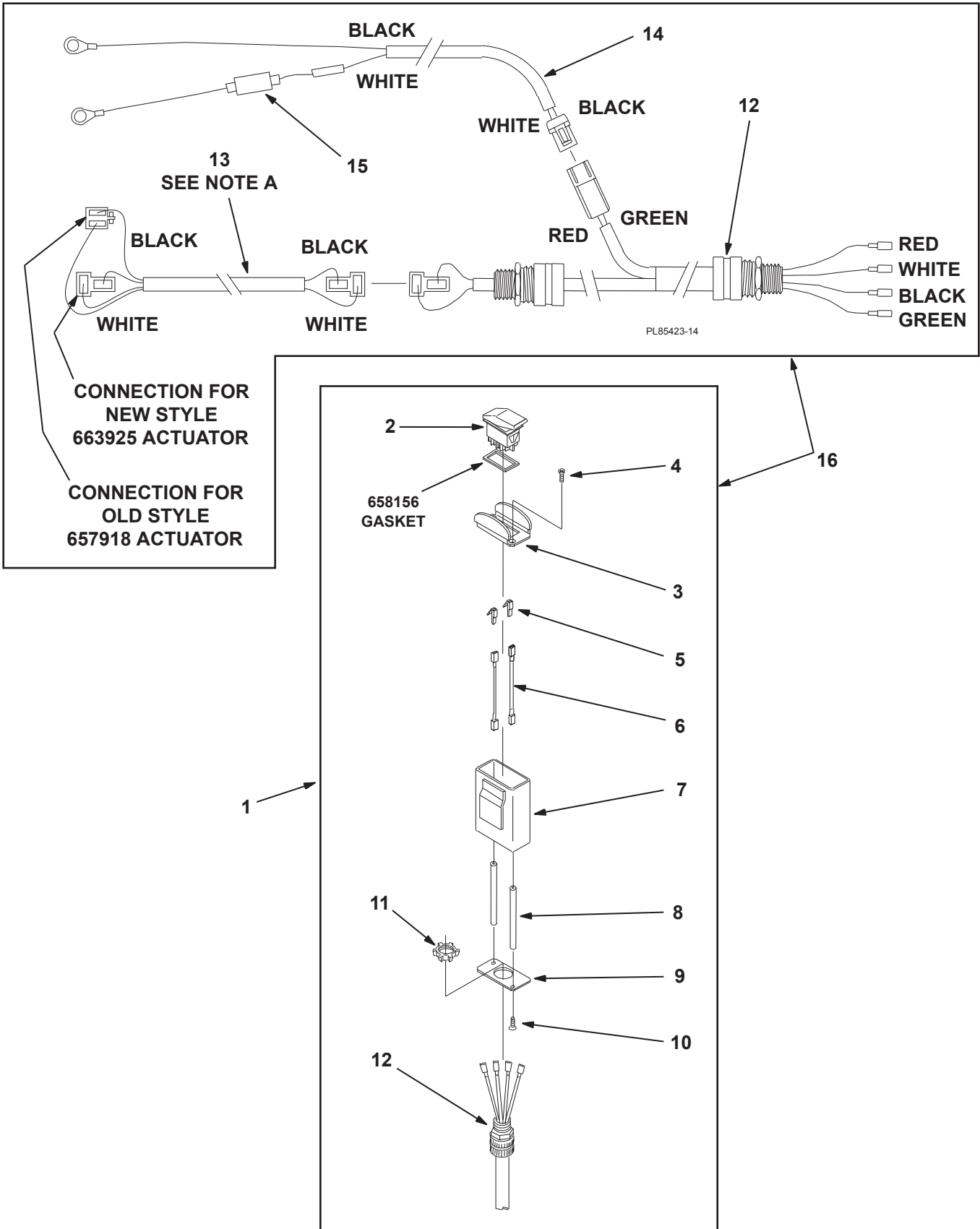
Clutch Box

Item No.	Part No.	Description	Qty.
1	655073	Bracket, Clutch Throw Out.....	1
2	499021	Washer, 25/64" x 5/8" x 1/16".....	2
3	655356	Shim.....	Note A
4	655076	Plate, Wear.....	1
5	446128	Washer, Lock, 1/4".....	4
6	400150	Screw, Hex, 1/4"-28 x 1".....	2
7	460028	Pin, Cotter, 1/8" x 1".....	1
8	657932	Pin, Anchor.....	1
9	663925	Actuator, Clutch (Replaces 657918 Actuator - See Note B).....	1
10	657931	Bushing, Anchor.....	2
11	658049	Grommet, Rubber.....	1
12	657926	Cam, Wear.....	1
13	657933	Bushing, Actuator.....	1
14	444808	Nut, Self Locking, 5/16"-18.....	1
15	499014	Nut, Self Locking, 1/4"-28.....	1
16	460014	Pin, Cotter, 3/32" x 3/4".....	1
17	452002	Washer, 1/4" x 9/16" x 3/64".....	2
18	657927	Arm, Cam Pivot (Includes Item 20).....	1
19	657963	Pin, Clevis, 1/4" x 1-3/4".....	1
20	656225	Bearing, Oilite.....	2
21	400152	Screw, Hex, 1/4"-28 x 1-1/4".....	1
22	400190	Screw, Hex, 5/16"-18 x 1-1/4".....	1
23	444830	Nut, Self Locking, 1/4"-20.....	1
24	400106	Screw, Hex, 1/4"-20 x 5/8".....	3
25	657929	Pivot Shaft, Clutch Box.....	1
26	452004	Washer, 5/16" x 3/4" x 1/16".....	2
27	657921	Clutch Box.....	1
28	651074	Pin, Pivot.....	1

NOTE A: Use As Many Shims (Item 3) As Necessary To Insure Proper Clutch Engagement and Clearance.

NOTE B: If Replacing a 657918 Actuator, the New 663925 Actuator Will Be Supplied With A New 664689 Actuator Cable For Proper Electrical Connection. Order 657918 To Receive New Cable.

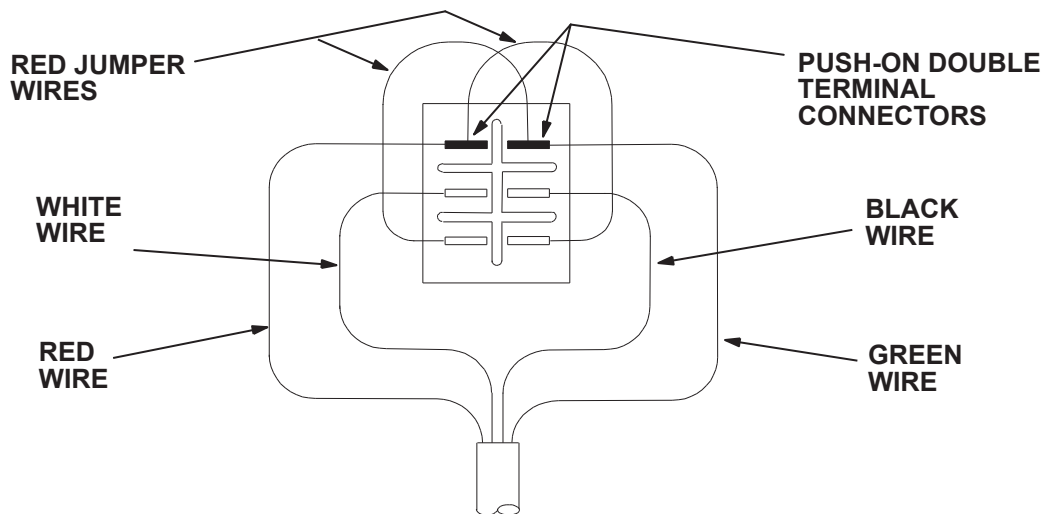
Control Box Assembly and Cables



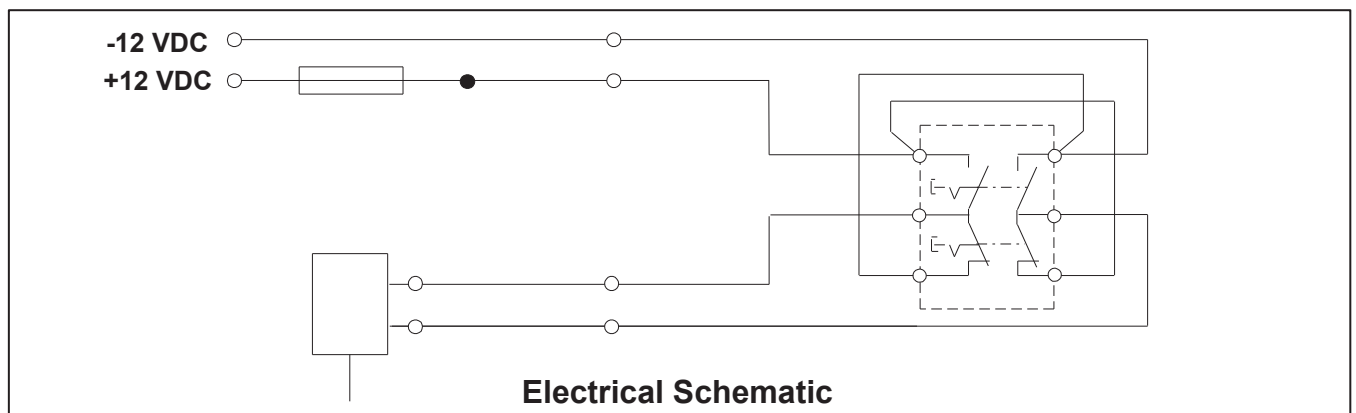
Control Box Assembly and Cables

Item No.	Part No.	Description	Qty.
1	659175	Control Box Assembly (Includes Items 2 through 12)	1
2	657952	Switch, Rocker Style	1
3	661776	Switch Plate, Rocker	1
4	657957	Screw, Flat Head, 8-32 x 3/8"	2
5	658022	Connector, 1/4" Push-On Double	2
6	658260	Jumper, Wire, Red	2
7	657970	Body, Conveyor Control	1
8	657951	Tie Rod	2
9	657950	Base Plate	1
10	657956	Screw, Pan Head, 8-32 x 3/8"	2
11	657603	Lock Nut, Bonding Type, 1/2" NPT Conduit	2
12	659176	Cable, Control Box	1
13	664689	Cable, Actuator to Tongue (See Note A)	1
14	659177	Cable, Power Supply	1
15	657972	Fuse, 6 Amp (Does Not Include Fuse Holder)	1
16	658259	Wiring Harness, Complete, F12D (Includes Items 1 Thru 15)	1

NOTE A: 664689 Actuator Cable Replaces 658248 Actuator Cable. 664689 Cable Allows the Electrical Connection To New Style 663925 Actuator Or To Old Style 657918 Actuator.



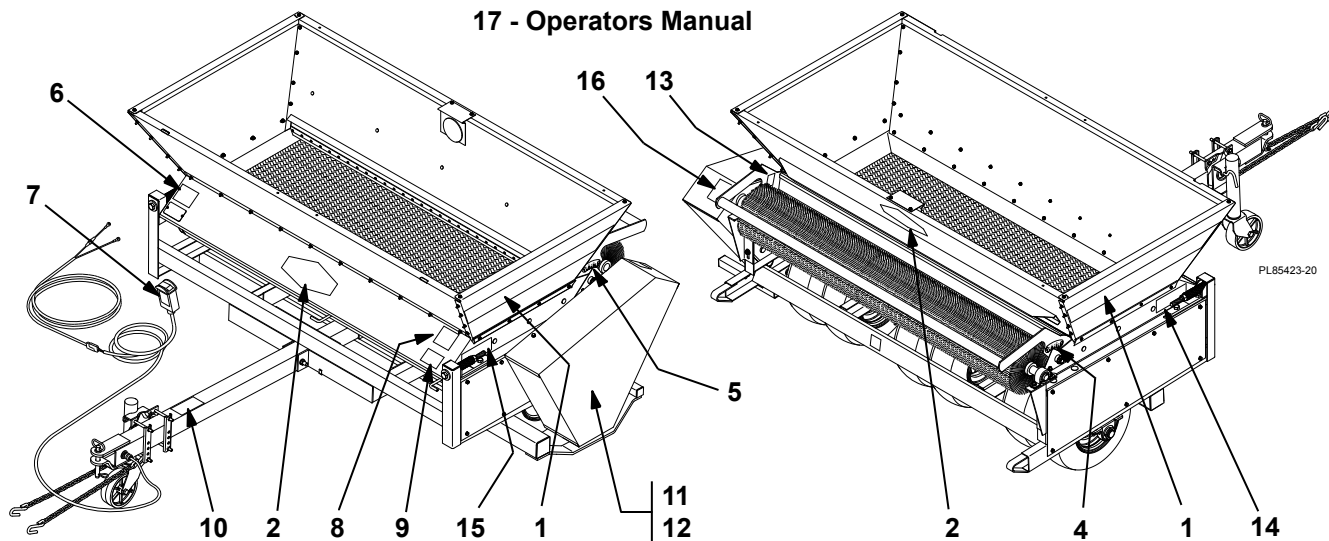
Switch Wiring Diagram



Electrical Schematic

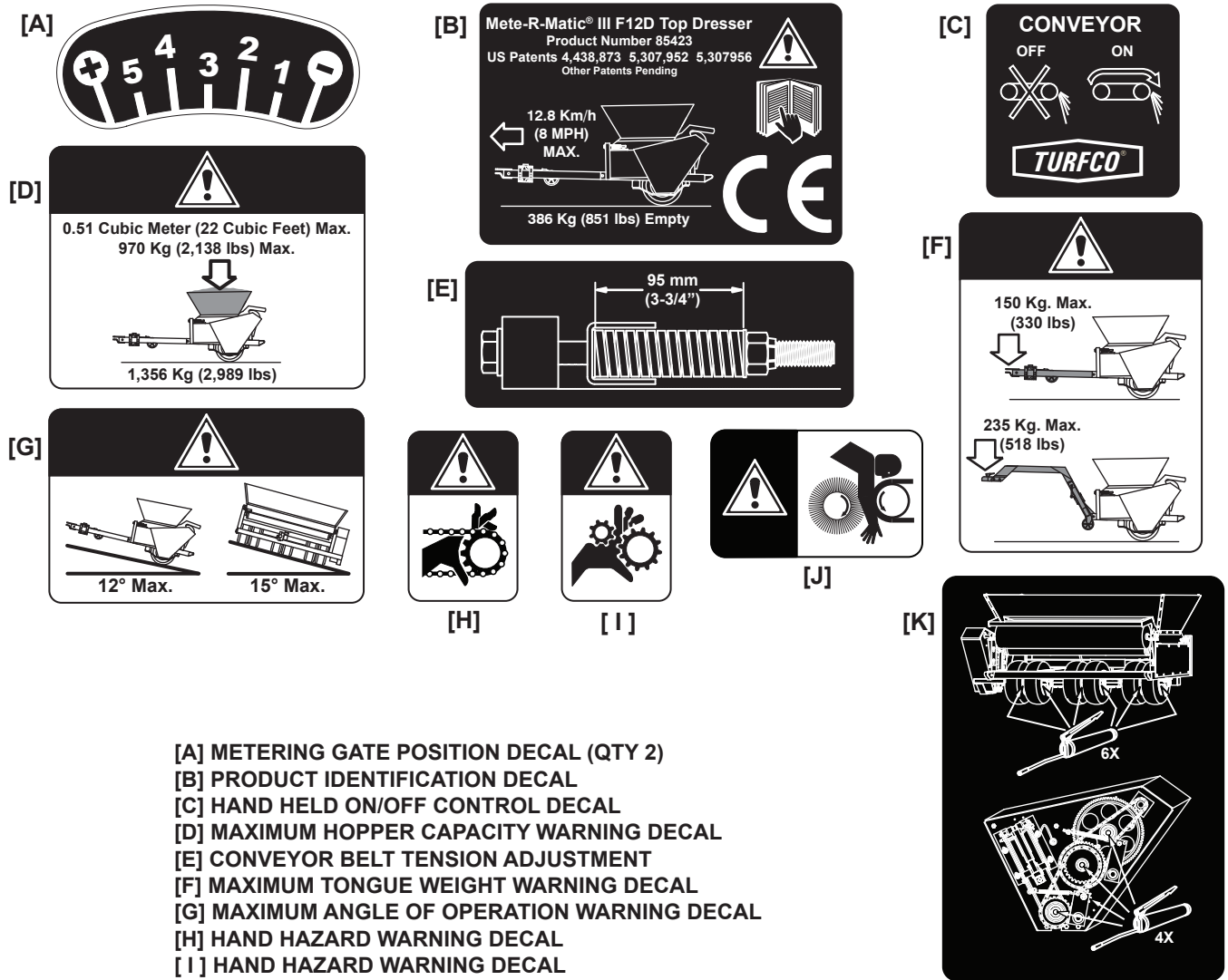
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Decals and Manual



Item No.	Part No.	Description	Qty.
1	658017	Decal, Hopper, Mete-R-Matic III	2
2	665865	Decal, Turfco Logo, 10"	2
3	665622	Decal Sheet, Product ID and Warnings, Includes Items 4 thru 16	1
4		Decal, Metering Gate Setting, Right Hand	1
5		Decal, Metering Gate Setting, Left Hand	1
6		Decal, Product Identification	1
7		Decal, Hand Held ON/OFF Control	1
8		Decal, Maximum Hopper Capacity Warning	1
9		Decal, Maximum Angle of Operation Warning	1
10		Decal, Maximum Tongue Weight Warning	1
11		Decal, Hand Hazard Warning, Gears (Under Side Guard)	1
12		Decal, Hand Hazard Warning, Chain (Under Side Guard)	1
13		Decal, Brush Hazard Warning	2
14		Decal, Conveyor Belt Tension Setting, Right Hand	2
15		Decal, Conveyor Belt Tension Setting, Left Hand	2
16		Decal, Lubrication - Grease Fittings	1
17	657968	Manual, Operator's and Parts List, Rev B	1

Decals



- [A] METERING GATE POSITION DECAL (QTY 2)
- [B] PRODUCT IDENTIFICATION DECAL
- [C] HAND HELD ON/OFF CONTROL DECAL
- [D] MAXIMUM HOPPER CAPACITY WARNING DECAL
- [E] CONVEYOR BELT TENSION ADJUSTMENT
- [F] MAXIMUM TONGUE WEIGHT WARNING DECAL
- [G] MAXIMUM ANGLE OF OPERATION WARNING DECAL
- [H] HAND HAZARD WARNING DECAL
- [I] HAND HAZARD WARNING DECAL
- [J] BRUSH HAZARD WARNING DECAL (QTY 2)
- [K] GREASE FITTING DECALS



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