ROSCO

A LeeBoy Company

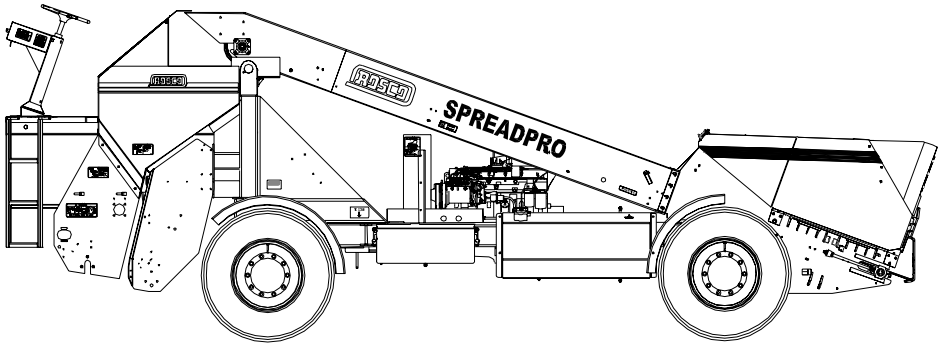
SPREAD PRO
Aggregate Distributor

OPERATION, SERVICE & PARTS

Manual Part No. 73092-01

For Serial No. 41578 and later

Published 07-01-05



NOTE: It is the responsibility of the customer or user's management to train, educate and supervise employees in the proper operation and maintenance of this equipment.

ROSCO - A LeeBoy Company

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MACHINE SPECIFICATIONS

AUXILIARY SYSTEMS

PUMP (Steering) ..... .97 CIR (29 cc) Gear
PUMP (Tandem w/Flow Control - Conveyors) ..... 2.3 CIR (38 cc) Gear
PUMP (Tandem w/o Flow Control - Feedroll and Cylinders) .. 1.6 CIR (49 cc) & .97 CIR (29 cc) Gear
MOTOR, Conveyor (2) ..... 24 CIR (392 cc) Gerotor
MOTOR, Spreadroll (3) ..... Gerotor

CONVEYORS (2), Heavy-Duty Belts

WIDTH ..... 24 in. (61.0 cm)
TROUGHING ROLLERS ..... Set at 20°
HEAD PULLEY ..... 12 in. (30.5 cm) dia. crowned rubber covered
CONTROL ..... Automatic or Manual single operator
SPEED ..... 0 to 550 ft/min. (0 to 167.6 m/min.)

MISCELLANEOUS EQUIPMENT

INSTRUMENTATION ..... Oil Pressure, Coolant Temperature, Voltmeter, Hourmeter, Hydraulic Temperature, Fuel Level,Tachometer, Air Pressure
ENGINE WARNING SYSTEM ..... Low Water Level, High Coolant Temperature/Low Oil Pressure, High Hydraulic Temperature, Low Air Pressure
SEAT ..... Suspension and Seat Belt (Std.)
AUXILIARY SEAT ..... Cushion (no suspension) includes lockable Storage Box
DYNAMIC BRAKING (Rear) ..... Air Maxie
SERVICE BRAKES (Front) ..... Air Over Hydraulic Power Assist Disc
PARKING BRAKES (2 Rear) ..... Spring Applied/Air Release
HORN ..... 12 volt
BACK-UP ALARM (Std.) ..... 5db above Ambient to 112 db
LIGHTS ..... Headlamps, Stop, Tail,Turn Signals, Four-Way Flashers, Folding Mount Strobe Light

HOPPERS

FRONT HOPPER (Outside Width) ..... 120 in. retracted (304.8 cm)
199 in. extended (505.5 cm)
FRONT HOPPER (Capacity) ..... 3.2 yd^3 (2.4 m^3)
maximum of 9,400 lb (4,264 kg)
REAR HOPPER (Outside Width) ..... 114 in. retracted (289.6 cm)
141 in. extended (358.1 cm)
REAR HOPPER (Capacity) ..... 4.5 yd^3 (3.4 m^3)
maximum of 11,700 lb (5,307 kg)

OPTIONAL EQUIPMENT

ENGINE ..... 230 HP (171.5 kw) Cummins 6QSB5.9
CAB ..... Tinted Safety Glass,Removable Windows and Door, Door Lock, Fresh Air Pressurized, and Windshield Wiper
CAB AIR CONDITIONER
FOUR WHEEL DRIVE
20' VARIABLE SPREAD HOPPER

SAFETY PRECAUTIONS

3. DO NOT, under any circumstances, rework, weld, heat or braze any rim components that are cracked, broken or damaged. REPLACE them with like parts.

4. If you are not sure about proper mating of tire and wheel parts, consult a rim and wheel expert. This may be the person servicing your equipment or the rim and wheel distributor in your area. Mixing parts of one type with those of another is potentially dangerous.

5. Do not reinflate a tire that has been run flat without first inspecting the tire, tube, flap, rim and wheel assembly. Double check the side ring and the "O ring" for damage and make sure that they are secured in the gutter before reinflating.

Demounting

1. Remove valve core to exhaust all air from tire. ALWAYS exhaust all air from tire prior to removing rim components or wheel components such as nuts or rim clamps.

2. Check the valve stem by running a piece of wire through the stem to make sure it is not plugged.

3. Do not attempt to demount a tire unless you have the proper equipment and experience to do the job.

Mounting And Inflation

1. Do not inflate a tire before all components are properly in place. Place tire in a safety cage and inflate to approximately 10 psi. Recheck components for proper assembly. If assembly is wrong, deflate and correct.

2. NEVER hammer on an inflated or partially inflated tire/rim assembly. If assembly is proper at 10 psi, continue to inflate to fully seat the tire beads. Then completely deflate the tire to prevent localized overstretching of the tube. Reinflate to recommended operating pressure.

3. NEVER sit on or stand in front of a tire/rim assembly being inflated. Use a self attaching inflation chuck with remote shutoff, and make sure inflation hose is long enough to permit the person inflating the tire to stand to the side of the tire.

4. Do not hammer components with steel hammers. Use rubber, lead, plastic or brass faced mallets if it is necessary to tap components together.

5. Do not inflate tires beyond the tire manufacturer's recommended inflation pressure.

Servicing Tire And Rim On Vehicle

1. Do not try to drive an assembled or partially assembled tire/rim over a cast spoke wheel by hammering. STOP. Deflate and examine to determine the reason for the improper fit. Look for distortion or components that are not properly locked or seated.

2. Block the tire and wheel on opposite side of the vehicle before you place a jack in position.

3. Put hardwood blocks under the jack regardless of how hard the ground is. To reduce the risk of injury or death from crushing, **always** support the vehicle with blocks or preferably jack stands in case the jack should slip.

Operation

1. Never run a vehicle on one tire of a dual assembly. The carrying capacity of the single tire and rim is dangerously exceeded, and operating a vehicle in this manner can result in damage to the rim and tire.

2. Do not operate the machine with loose wheels or rims. Check wheel nuts periodically for proper tightening torque.

Refer to the Bolt Torque chart at the end o the **Maintenance** section of this manual.

WARNING: *Mismatched rim and tire parts can cause a dangerous explosion, resulting in SEVERE injury or death.*

INTRODUCTION

The ROSCO SpreadPro Chipspreader, hereinafter referred to as the SpreadPro, was designed to permit operation by a single person. In addition, the SpreadPro was designed and built to handle and accurately apply all **uniform** types of aggregate up to 1 inch (2.54 cm) to road surfaces. Non-uniform materials such as sand with wet and dry spots will have an increased range of dispersal.

The SpreadPro controls the rate of application over a wide range of travel speeds. The application rate is achieved by controlling both the spread hopper roll speed (RPM) and the spread hopper gate opening.

The SpreadPro's normal operation, Spread Mode, allows the computer to control the roll speed and the gate opening simultaneously. If the computer should fail during a job, the SpreadPro can also be operated in Manual (computerless) Mode. In this mode, the operator sets the extremes of the gate opening, and the machine controls the roll speed.

To obtain the maximum performance and efficiency designed into the SpreadPro, owners and operators **must** identify and understand the function and operation of all systems and components. To achieve the best results from this unit, the operator must become comfortable with the operation of all controls and modes of operation. All functions of the unit are covered in this section and it is vital that the operator read this entire section **before** operating or servicing the unit.

Options

The SpreadPro may be delivered with various options, depending on the requirements of the job or customer specifications. This manual describes available options, some of which may not be included on your SpreadPro. Those parts of the manual referring to equipment and features not furnished with the subject SpreadPro may be disregarded.

SPREADPRO TOUR of CONSOLES

Computer Display (2) - The following information is displayed on two screens to help the operator monitor the operation of the SpreadPro:

- Water Temperature
- Volt Meter
- Oil Pressure
- Air Pressure
- Hour Meter
- Oil Temperature (Hydraulic)
- Fuel Gauge
- Engine RPM

If one of these functions requires attention, the appropriate screen will appear and the malfunctioning item(s) will flash when a preset fault level is reached.

Other items around the center console that the operator should be aware of include:

Horn Switch - Located in the center of the steering wheel operates the horn when pushed.

Brake Foot Switch - Located on the floor on the right side of the console. Operates the brakes when stepped on.

Hitch Foot Switch - Button switch located on the floor on the left side of the console. When pressed down, it opens or releases the hitch, and a large red light on the right side of the machine flashes. The hitch will then stay in that position for a short time before returning to the closed position. The large red light will flash while the operator has the foot switch depressed. This light signals to the truck operator that the hitch is being released.

Light Switch Handle - Located on the left side of the console. Turns lights on or off and provides turn signals and hazard lights.

Variable Speed Conveyor Controls - These hydraulic flow control valves permit the operator to independently adjust the speed for each conveyor. By using these controls, the operator can provide even placement of aggregate in the spread hopper and match material flow to distribution rate. This prevents the ON/OFF cycling of the conveyors when using the auto belt control.

Automatic Cut-Off Switch - The automatic cut-off switch is a limit switch located at the hopper that automatically shuts off the conveyors as needed when the unit is being controlled by a single operator. This switch is tripped when the paddle that is connected to it is pushed by a build up of aggregate. It is released as the spread hopper empties.

Engine Throttle Toggle - Controls the RPMs of the engine.

- Up 1 bump = 1400 RPM
- Up 2 bumps = 1800 RPMs
- Up 3 bumps = 2200 RPMs
- Idle = 1000 RPMs

NOTE: Bumping the toggle down when in idle or up when at 2200 RPMs will put the system out of sequence and will require turning the machine OFF and re-starting.

Air Conditioning - If your unit is equipped with air conditioning, the controls will be located on the center steering console below the steering wheel.

SPREADPRO TOUR of COMPUTER OPERATION

MEM	FPM
1	350

The Data Update switch will change the FPM by 1 foot increments (30.5 cm). The minimum is 1 FPM, the maximum is 880 FPM (268 mPM). This is the speed that the machine will try to achieve when the Joystick is moved to full stroke in Spread mode.

If the Data Update switch is held up (+) or down (-) for less then 1 second, the rate will change by only 1 unit. If the Data Update switch is held up (+) or down (-) for longer than 1 second, the rate will change more rapidly.

Material Type Change Screen (4):

The fourth screen in the Memory Setup Group must be scrolled to by the operator. This screen shows the memory location that is active at the time the Memory Setup Group is entered. The MAT:TYPE description is *flashing* to indicate that the MAT:TYPE data can be changed.

MEM	MAT:TYPE
1	C

The MAT: TYPE can be only one of two values, **C** for crushed stone, or **P** for pit stone. Toggling the Data Update switch up (+) will change the material type from C to P, and down (-) will change the material type from P to C.

NOTE: The material type needs to be set to the correct value. Different materials have different flow characteristics.

Material Weight Change Screen (5):

The fifth screen in the Memory Setup Group must be scrolled to by the operator. This screen shows the memory location that is active at the time the Memory Setup Group is entered. The MAT:WGHT description is *flashing* to indicate that the MAT:WGHT data can be changed by toggling the Data Update switch up (+) to increase the MAT:WGHT or down (-) to decrease the MAT:WGHT.

MEM	MAT:WGHT
1	2700

The Data Update switch will change the MAT:WGHT by 10 pound increments (4.5 kg). The minimum is 1800 pounds (816.5 kg), the maximum is 4500 pounds (2041.2 kg).

If the Data Update switch is held up (+) or down (-) for less then 1 second, the rate will change by only 1 unit. If the Data Update switch is held up (+) or down (-) for longer than 1 second, the rate will change more rapidly.

Save or Exit Screen (6):

The sixth screen in the Memory Setup Group must be scrolled to by the operator. This screen gives the operator a choice of saving the new data to memory, or exiting the Memory Setup Group **without** saving the new data.

MEM SAVE TO KEEP
DATA DECREMENT TO EXIT

The Memory Save toggle switch will save the new data into the memory location that is active at the time the Memory Setup Group is entered.

The data that was changed during the use of the Memory Setup Group will be used by the on board computer to properly proportion the gate opening and the spreadroll speed. The computer will continue to use this information until the operator changes it by selecting another pre-set memory.

After saving the data, the display will automatically return to the Operating Group and show screen 1, (Machine Data).

To return to saved data, simply reload any of the memory settings by toggling the appropriate Memory # Toggle Switch.

Toggling the Data Update switch down (-) will exit the Memory Setup Group **without** saving the new data to memory. After exiting, the display will automatically return to the Operating Group and show screen 1, (Machine Data).

MACHINE OPERATION & SETUP

SPREAD MODE (COMPUTER CONTROLLED) OPERATION/SETUP

SPREAD MODE

The following section will give detailed instructions on the steps to setup and operate the SpreadPro in the **Spread** mode. Proper operation of this unit requires a thorough understanding of the capabilities and operation of all the components of the SpreadPro.

Most of the screen related functions may be performed without the engine running, however, the Engine Ignition switch must be ON. This is a good way to become acquainted with the different screens and how to move from one screen or group of screens to another.

Memory Functions

1. Move the Operation Mode switch to **Spread** mode. The computer display will show the current machine settings.

M	PSY	SIZE	FPM
1	26	0.375	350

2. Use memory switches to load data that was previously saved. If the memory settings are correct, skip to Step 11. To change data or to setup a memory location for future use, select the memory location to be used and continue.

3. Enter the Memory Setup Group by holding the Screen Select switch **and** the Data Update switch **down** (-) at the same time. The display will change to show that the Memory Setup Group is active.

MEMORY SETUP
GROUP

4. Scroll to the next screen by pushing the Screen Select switch up (+). This is the PSY Change screen. PSY is *flashing* to indicate that this value can be changed. Move the Data Update switch up (+) or down (-) to set this value to the desired application rate.

MEM	PSY
1	26

5. Scroll to the next screen by pushing the Screen Select switch up (+). This is the Size Change screen. SIZE is *flashing* to indicate that this value can be changed. Use the Date Update switch to set this value to the desired rock size.

MEM	SIZE
1	0.375

6. Scroll to the next screen by pushing the Screen Select switch up (+). This is the FPM Set Point Change screen. FPM is *flashing* to indicate that this value can be changed. Use the Date Update switch to set this value to the desired chipping speed.

MEM	FPM
1	350

7. Scroll to the next screen by pushing the Screen Select switch up (+). This is the Material Type Change screen. MAT:TYPE is *flashing* to indicate that this value can be changed. Use the Date Update switch to set this value to the desired Material Type, P for pit or round stone, or C for crushed stone.

MEM	MAT:TYPE
1	C

8. Scroll to the next screen by pushing the Screen Select switch up (+). This is the Material Weight Change screen. MAT:WGHT is *flashing* to indicate that this value can be changed. Use the Date Update switch to set this value to the known Material Weight.

MEM	MAT:WGHT
1	2600

9. Scroll to the next screen by pushing the Screen Select switch up (+). This is the Save or Exit screen. To save the data that has just been

TRAVEL MODE OPERATION

TRAVEL MODE

The following section will give detailed instructions on the steps to operate the SpreadPro in Travel mode. Proper operation of this unit requires a thorough understanding of the capabilities and operation of all the components of the SpreadPro.

1. Move the Operation Mode switch to Travel. The Travel Mode Screen will display the actual machine speed in miles per hour (MPH). Top speed in Travel mode is 20.0 MPH (32.2 KPH).

TRAVEL	MPH
MODE	20.0

2. The Memory, Memory Save, PSY Cal, Data Update, and Screen Select switches **do not** work in the Travel Mode. There are no computer controlled Start and Restart functions. The SpreadPro is not designed to spread material while in the Travel Mode.

3. Before travelling in the SpreadPro, perform the following:

   a. Move the Joystick into the forward direction. Reverse direction will allow the machine to move, but not at full speed.

   b. Move the Engine RPM up to Travel Speed or 2200 RPM.

   c. Retract the Front Hopper Extensions **fully**.

   d. Raise the Rear Hopper Wings **fully**.

NOTE: Once the wings are fully raised, the hitch is automatically raised to a storage position. This prevents the hitch from bouncing around while travelling and helps facilitate loading and unloading of the SpreadPro for shipment.

4. The Travel Mode provides overspeed protection that will keep the machine from going faster than 20 MPH (32.2 KPH) in downhill situations.

ENGINE SYSTEM

4. Inspect the cables, clamps and hold-down brackets regularly. Clean and apply a light coating of grease when needed. Replace corroded or damaged parts.

5. If the engine is difficult of start or the batteries become discharged repeatedly, check the terminal connections and clean if needed. If the problem continues, test the battery with a battery tester for voltage and current draw.

DANGER: *Explosive gas may remain around a battery several hours after it has been charged. Sparks or flame can ignite this gas causing an explosion which could shatter the battery and cause severe personal injury. Always shut off the battery charger before disconnecting cables from the battery terminals.*

6. If the SpreadPro is to be stored for more than 30 days, remove the batteries and store them in a cool, dry place. During storage, keep the batteries fully charged and check the level of the electrolyte regularly.

Engine Belt Maintenance

1. Check the primary diesel engine belt for excessive wear, fraying and cracking every 250 service hours. Auxiliary V-drive belts should be inspected every 100 hours.

2. Adjust engine belts as required to provide proper tension. Consult the Cummins engine manufacturer's manual for correct tension instructions and specifications.

DANGER: *Always shut down the engine before adjusting belts. Severe injury can result if belts are adjusted on a running engine.*

3. When installing new belts, always shorten the distance between pulley centers so the belt can be installed without force. Never roll the belt over the pulley and never pry it with a tool such as a screwdriver. This will damage the belts and cause early failure.

DANGER: *Keep all belt guards in place. Severe personal injury may result from contact with turning belts and pulleys.*

MACHINE LUBRICATION

Rear Wheel Lubrication

Any time the wheel grease could have been contaminated or whenever the hub is removed from the spindle for service or repair, the wheel grease must be replaced. For normal service the grease should be replaced twice a season or every 250 hours. The bearings should be packed to ensure that grease is forced into the cavities between the rollers, cone and cage of the bearings. Fill the wheel and hub cap with grease when reassembling.

ATTENTION: *Do not mix lithium, calcium, sodium, or barium complex greases. When changing from one type of grease to another, be sure all of the old grease has been removed.*

ATTENTION: *Failure to correctly lubricate bearings and maintain proper lubrication could cause bearing and axle spindle damage. Such damage could lead to wheel lockup or wheels coming off during operation.*

SpreadPro Lube Points

There are many lube points on the SpreadPro, which require daily lubrication. The numbers on Figure 7 indicate the lubrication points.

1. There is one grease zerk on the pivot of the hitch lock (1).

2. There are two lube points on the bearings of each tail pulley (2). The inside bearing grease fitting can be reached from one of two ways. You may either reach under the machine near the hitch or remove the access plate in the rear hopper to service this fitting.

3. There are grease fittings on each end of the wing pivot (3). They may be serviced when the wings are raised.

4. The spreadrolls in the center hopper and the extensions have fittings for service of the bearings. There are holes in the side panels of the hoppers for access.

   a. The center hopper has a fitting on each end (7) under the guard. To raise the guard, shift the retaining latch slide up. The slide is located inside the center hopper. The slide will drop down so it is straight out from the pin. Then slide the cover off the hinge pins to access the grease fittings.

   b. The extensions have one fitting (5) located on the outer side of the extension.

5. The agitators also have grease fittings on the bearings. As with the spreadroll fittings there are holes in the side panels of each hopper for access.

   a. The center hopper has one on each end (6) and can be reached by removing the guard as in step 4.

   b. The extensions each have one on the outer end of the shaft (4).

WARNING: *Always replace the guards on each end of the center hopper before operating machine. Serious injury can occur from becoming entangled in moving parts.*

6. There are fittings for greasing the bearings on the head pulleys. There is one on each side of each pulley (8).

   a. The outside fitting can be reached from the operator platform.

   b. To reach the inner pulley fittings, step into the hopper and reach under the guard plate to access the fittings.

SpreadPro Rotary Gate Seal

In the center hopper and on each extension there is a rubber seal on the bottom of each gate (3 in the center hopper and 1 in each extension). This seal should be inspected daily and replaced when damaged.

TROUBLESHOOTING

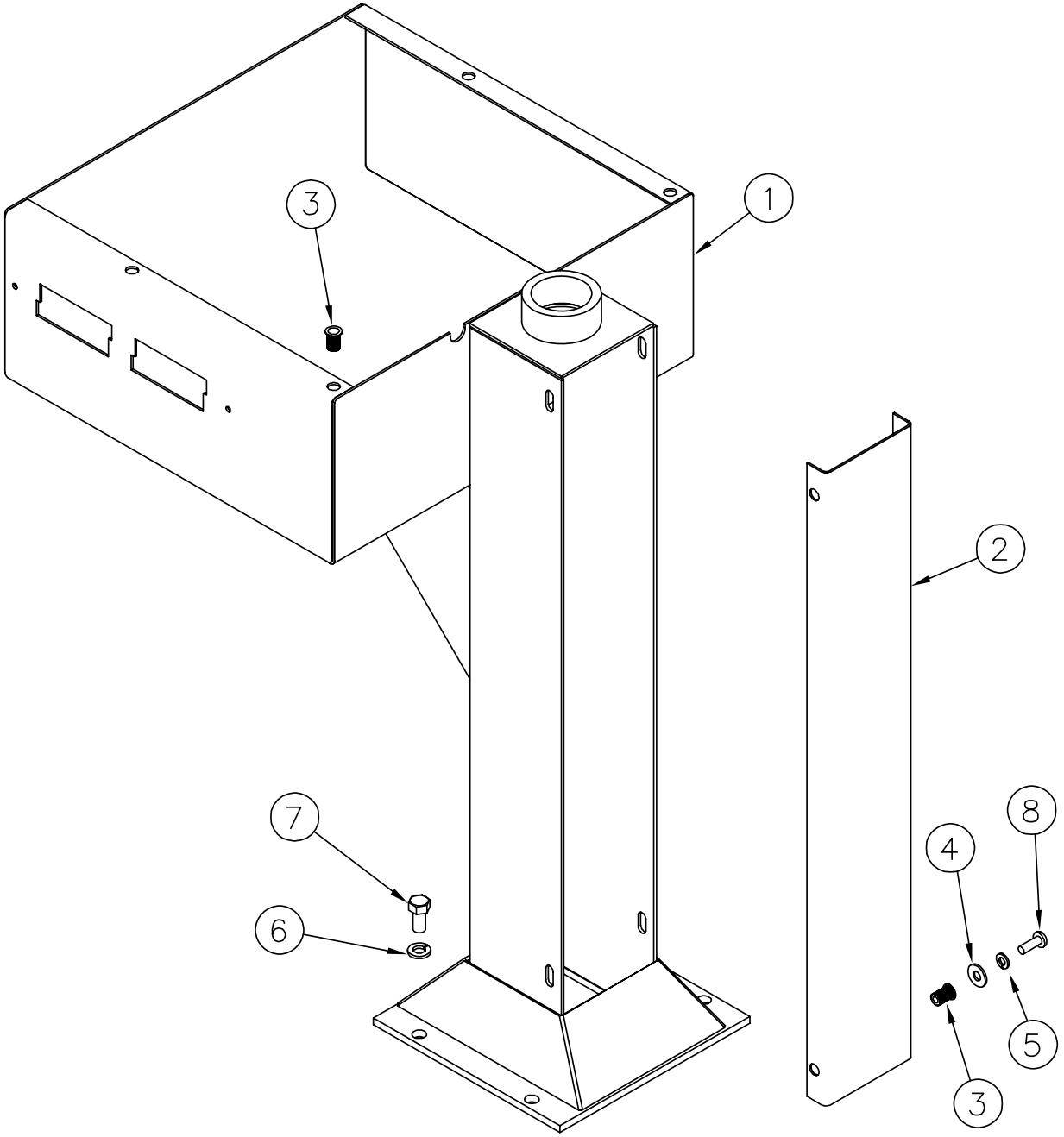
Problem	Cause	Solution
Engine Doesn't Crank	Battery is weak or dead.	Charge or replace battery.
	Park Brake switch is "OFF".	Park Brake switch must be "ON" to start engine.
	Right arm rest is not down.	Lower arm rest.
	Neutral start switch not activated.	Put direction control lever in neutral.
	Faulty ignition switch.	Replace ignition switch.
	Faulty solenoid on starter or faulty starter.	Repair or replace.
	Faulty wiring.	Repair or replace.
Engine Cranks but Won't Start (no smoke from exhaust)	No fuel in fuel tank.	Add fuel to fuel tank.
	No voltage to fuel shut off solenoid.	Check fuel shut off voltage. (voltage should be a minimum of 9 volts with the ignition key "ON" while cranking.)
	No fuel to the injector pump.	Check fuel supply system.
	Fuel connections loose on suction side of injector pump.	Tighten all fuel filter fittings and connections from the fuel tank to the injector pump.
	Fuel filter plugged or restricted.	Replace the fuel filter(s).
	Intake or exhaust system restricted.	Check for and remove restrictions.
Engine Difficult to Start or Won't Start	Engine cranking speed too low (below 150 RPM).	Repair/clean battery terminal connections. Charge/replace battery.
	Insufficient supply of fuel to injector nozzles.	Check fuel system. Clean/replace fuel filter.

TROUBLESHOOTING

Problem	Cause	Solution
Unit Stalled On Mat	Engine failure.	Disconnect driveshaft. For 2-WD: Screw air chambers in to release rear brakes. For 4-WD: Disengage torque hubs. Remove unit from the mat.
Extensions Will Not Retract	Computer failure.	Use override buttons on auxiliary valve, behind guard on right side of machine.
Hitch Will Not Release	Computer failure.	Use override buttons on auxiliary valve, behind guard on right side of machine.
Wings Will Not Rise	Computer failure.	Use override buttons on auxiliary valve, behind guard on right side of machine.
Variable Speed Conveyor Controls Fail to Change Belt Speed.	Faulty belt speed control valve on conveyor. Faulty potentiometer.	Replace the valve. Replace potentiometer.

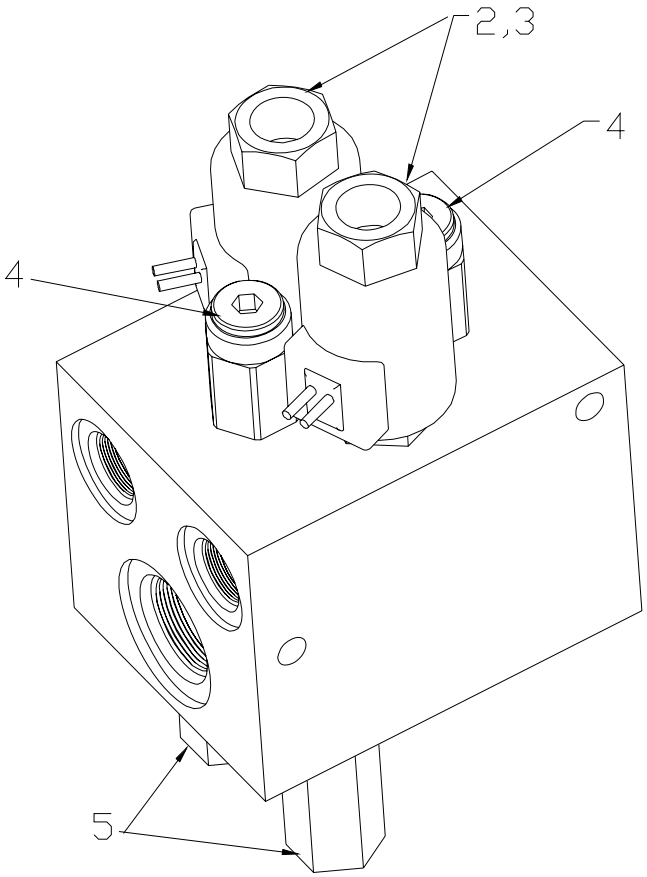
ITEM	PART NUMBER	QTY	DESCRIPTION
	42468		**CONTROL,COMPUTER,ELEC GATE,QSB**
1	73260	1.00	MICRO PROC,CONTROL,MASTER,"A"
2	73261	1.00	MICRO PROC,CONTROLLER,I/O,"F"
3	**41422**	**1.00**	**SEAT/CONTROL GROUP (See Detail)**
4	73293	1.00	MICRO PROC,CONTROLLER,I/O,"B"
5	73294	1.00	MICRO PROC,CONTROLLER,I/O,"E"
6	42494	1.00	PL,MODULE MOUNTING
7	**42498**	**1.00**	**WIRING,CTR CONTROL PANEL,S/P (See Schem. at End)**
8	**42499**	**1.00**	**WIRING,SIDE CONTROL PANEL,S/P (See Schem. at End)**
9	**42501**	**1.00**	**WIRING,RELAY PANEL,S/P (See Schematic at End)**
10	**42502**	**1.00**	**HARNESS,JOYSTICK TO MOD,S/P (See Schem. at End)**
11	42504	1.00	HARNESS,E-MODULE,S/P
12	42503	1.00	HARNESS,B-MODULE,S/P
13	42505	1.00	HARNESS,F-MODULE,S/P
14	42506	1.00	HARNESS,A-MODULE,S/P
15	42507	1.00	HARNESS,ENGINE MODULE,S/P
16	42508	1.00	HARNESS,CAN CONNECTIONS,S/P
17	42509	1.00	HARNESS,POWER,BATTERY,S/P
18	42510	1.00	HARNESS,INDIV GATES,
19	42512	1.00	HARNESS,SPREADROLL VALVES,S/P
20	42513	1.00	HARNESS,GATE ACTUATORS,S/P
21	42514	1.00	HARNESS,GUIDANCE LIGHTS,S/P
22	42515	1.00	HARNESS,BEACON &PARK BRAKE,S/P
23	42516	1.00	HARNESS,CTR TO SIDE PANEL,S/P
24	42517	1.00	HARNESS,FLOAT SW,LH
25	42518	1.00	HARNESS,FLOAT SW,RH
26	**42528**	**.00**	**SCHEMATIC,SPREADPRO,HED (See Schematic at End)**

ITEM	PART NUMBER	QTY	DESCRIPTION
	41602		**STEERING COLUMN GROUP,NON-CAB**
1	41317	1.00	HOUSING,STEERING COLUMN
2	41324	1.00	COVER,WIRING,STEERING COLUMN
3	37986	8.00	NUT,INSERT,.250-20,.027-.165,S
4	80140	4.00	WASHER,TYPE A PLAIN,.250
5	80160	4.00	WASHER,SPLIT LOCK,.250
6	80162	4.00	WASHER,SPLIT LOCK,.375
7	80219	4.00	CSHH,.375-16X.75,GR5
8	81107	4.00	MACH SCR,PH,.250-20X.50



ITEM	PART NUMBER	QTY	DESCRIPTION
	42375		**GRP,HYD,2WD,16 FT HOPPER**
6	36123	5.00	STRAINER,SUCTION 15GPM 100MESH
19	72370	6.00	FITT,TEST 04MB-02PD
25	72783	2.00	MOTOR,HYD GEROTOR,18.7CIR
28	**41797**	**1.00**	**VLV,HYD,MANIFOLD,FEEDROLL,MOD (See Detail)**
32	72858	2.00	VLV,HYD,MANUAL,ON/OFF
33	72925	1.00	MOTOR,HYD,14.9 CIR,W/PICK-UP
34	72926	2.00	MOTOR,HYD,14.9 CIR
36	**72960**	**1.00**	**KIT,HOSE/FITTING,FEEDROLL/CONV (See Detail)**
48	81218	8.00	CSSH,.312-18X3.50
50	72993	1.00	VLV,CHECK,10MJ-10MJ
51	73005	1.00	SEAL,O-RING -10 BOSS
53	72372	10.00	FITT,PLUG 02PD,DUST
	72960		**KIT,HOSE FITTING,FEEDROLL/CONV**
151	31045	5.00	FITT,90 10MJ-10MB
152	33307	9.00	FITT,90 10MJ-12MB
154	37530-090	1.00	HOSE,10,10FJX-10FJX,3000
155	37530-094	1.00	HOSE,10,10FJX-10FJX,3000
156	34083	2.00	FITT,90 12MJ-10MB
157	37530-187	1.00	HOSE,10,10FJX-10FJX,3000
160	6466	2.00	FITT,90 16MJ-16MP
168	72559-063	1.00	HOSE,12,12FJX-16FJX,1250
169	72570-076	1.00	HOSE,16,16FJX-16FJX,250
171	72956-014	2.00	HOSE,10,10FJX-10FJX90,3000
172	73206-089	1.00	HOSE,10,10FJX-10FJX45,3000,OS
173	73206-093	1.00	HOSE,10,10FJX-10FJX45,3000,OS
178	X392	6.00	FITT,STR 10MJ-10MB
179	X401	1.00	FITT,90 10MJ-10FJX
196	X319	1.00	FITT,90 16MJ-16MB
197	37530-177	2.00	HOSE,10,10FJX-10FJX,3000
203	39072	2.00	PIPE PLUG, 1/4" HEX HEAD
250	72774		PUMP,GEAR (See Engine Group)

ITEM	PART NUMBER	QTY	DESCRIPTION
	73001		**VLV,MANIFOLD,PROP CONTROL**
2	73001-01	2.00	VLV,PROPORTIONAL
	72790-04	1.00	KIT,SEAL,PROP VLV
3	72790-02	2.00	COIL,DUAL LEAD
4	37624-01	2.00	CARTRIDGE,RELIEF,2500 PSI
	37352-02	1.00	KIT,SEAL
5	73001-02	2.00	ELEMENT,LOGIC
	73001-03	1.00	KIT,SEAL,LOGIC ELEMENT



REF: 42369
REV: 0

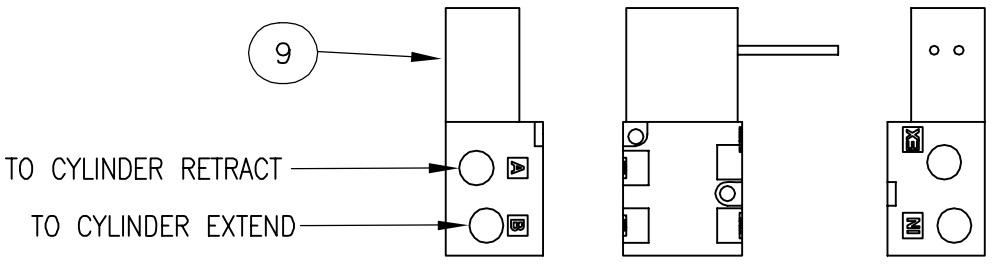
ITEM	PART NUMBER	QTY	DESCRIPTION
	42369		**GRP,FRONT HOPPERS,16 FT,ELEC (Non-Illustrated)**
1	**41586**	**1.00**	**GROUP,CAB SHIELD (See Detail)**
2	**41698**	**2.00**	**ASSY,LEVEL SWITCH,AGGREGATE (See Detail)**
3	**41726**	**1.00**	**GRP,HOSE HANGER,EXT HOPPERS (See Detail)**
4	**41799**	**1.00**	**ASSY,BRUSH GUARDS,ROTARY GATES (See Detail)**
5	41800	2.00	GUIDE,FRONT,EXTENTION HOPPER
6	41902	1.00	THD'D ROD,.750-10 UNC X 9.50
7	**41907**	**1.00**	**GROUP,SCATTER PLATES (See Detail)**
8	**42317**	**1.00**	**ASSY,CENTER HOPPER,16 FT (See Detail)**
9	**42336**	**1.00**	**GRP,EXT HOP,RH,ELEC,16FT (See Detail)**
10	**42337**	**1.00**	**GRP,EXT HOP,LH,ELEC,16FT (See Detail)**
11	**42467**	**1.00**	**GRP,INDIV 9-GATES,16 FT HOP (See Detail)**
12	511219	4.00	W/M,GRILL,REAR
13	511222	2.00	W/M,GRILL,FRONT
14	511500	6.00	WEAR PLATE,EXT FRT RAIL SUPPRT
15	**512002**	**1.00**	**ASSY,CENTER HOPPER,ROTARY GATE (See Detail)**
16	**514001**	**1.00**	**ASSY,RAIL,EXT/HOPPER (See Detail)**
17	80142	16.00	WASHER,TYPE A PLAIN,.375
18	80147	20.00	WASHER,TYPE A PLAIN,.750
19	80162	16.00	WASHER,SPLIT LOCK,.375
20	80186	12.00	CSHH,.500-13X1.75,GR5
21	80219	16.00	CSHH,.375-16X.75,GR5
22	80354	12.00	NUT,FLEXLOC,.500-13,FULL,LT
23	80357	16.00	NUT,FLEXLOC,.750-10,FULL,LT
24	81021	16.00	CSFHS,.375-16X1.50
25	81114	14.00	CSHH,.750-10X2.50,GR8
26	81141	24.00	WASHER,SAE,HARDENED,.500
27	81154	28.00	WASHER,SAE,HARDENED,.750
28	81242	8.00	CSFHS,.375-16X1.00,GR5
29	33630-4	6.00	STRIPPING,EDGE,.188

REF: 42317
REV: 0

ITEM	PART NUMBER	QTY	DESCRIPTION
	42317		**ASSY,CENTER HOPPER,16 FT**
2	41737	1.00	ASSY,BEARING AND SPROCKET
3	41738	1.00	BRUSH,CENTER HOPPER,NYLON
4	41739	1.00	HOLDER,CENTER HOPPER,ALUM,EXT
8	42161	2.00	W/M,SCATTER PL SUPPORT
9	42318	1.00	W/M,CTR HOP,ELEC GATES,16FT
20	512118	1.00	BAR,SCRAPER RETAINING
24	512517	2.00	SCRAPER,REAR,CENTER HOPPER,16'
32	80036	8.00	NUT,HEX,.250-20
33	80038	6.00	NUT,HEX,.375-16
34	80040	8.00	NUT,HEX,.500-13
35	80140	4.00	WASHER,TYPE A PLAIN,.250
36	80141	2.00	WASHER,TYPE A PLAIN,.312
37	80160	1.00	WASHER,SPLIT LOCK,.250
38	80185	1.00	CSHH,.250-20X1.00,GR5
39	80192	8.00	CSHH,.250-20X.75,GR5
40	80208	2.00	CSHH,.312-18X1.00,GR5
41	80219	8.00	CSHH,.375-16X.75,GR5
42	80221	16.00	CSHH,.375-16X1.00,GR5
43	80224	3.00	CSHH,.375-16X1.25,GR5

REF: 42467
REV: A

ITEM	PART NUMBER	QTY	DESCRIPTION
	42467		**GRP,INDIV 9-GATES,16 FT HOP**
1	32873	1.00	FITT,STR 04MP-08HB,CRIMPED
2	32874	1.00	VLV,BALL,08 BRASS
3	33082	2.00	FITT,90 08MP-08HB
4	33163	4.00	CLAMP,HOSE,.50-.91,WORM,#08
5	35592	1.00	FITT,STR 08FP-08HB,CRIMPED
6	36402	9.00	MUFFLER,PNEUMATIC EXH,.12 NPT
7	37049	1.00	VLV,PRESS PROTECTION,102-88
8	37311	2.00	FITT,90 02MP-02FP,BRASS
9	38808	9.00	VLV,AIR,SOL,4-WAY,12VDC,DIODE
13	512013	9.00	W/M,SLIDE GATE
14	6352	13.00	HOSE,08,PUSH-ON,250
15	72806	9.00	CYL,1.50X8.0,250PSI,12.38
16	72893	2.00	FITT,STR 02MP-04PC
17	72894	18.00	FITT,90 02MP-04PC
18	72895	7.00	FITT,TEE 02MP-04PC-04PC,RUN
19	72896	1.00	FITT,Y 02MP-04PC
20	72909	1.00	FITT,90 02MP-04NT,AB,BRASS
21	72916	28.00	TUBING,AIR BRAKE,BLK,04
22	72920	1.00	VLV,DRAIN COCK,04MP,7"PULLCABL
23	72940	9.00	VLV,AIR,QUICK EXHST,02MP-02FP
24	73116	9.00	PIN,LINCH,.375,WITH FLAT SIDE
25	80092	22.00	NUT,HEX,JAM,.438-20
26	80142	8.00	WASHER,TYPE A PLAIN,.375
27	80224	4.00	CSHH,.375-16X1.25,GR5
28	80352	4.00	NUT,FLEXLOC,.375-16,FULL,LT
30	99526	1.00	PIPE,90,08MP-O8FP,MI
31	99569	1.00	PIPE,TEE,08FP,MI
32	99596	2.00	PIPE,NIPPLE,08XCLOSE
33	99611	9.00	PIPE,NIPPLE,02X1.50
34	99621	1.00	PIPE,NIPPLE,04X2.00
35	99979	2.00	PIPE,BUSH,08MP-02FP,STL
36	99980	1.00	PIPE,BUSH,08MP-04FP,STL
37	99985	1.00	PIPE,BUSH,12MP-08FP,STL



SECTION A–A
SCALE 1/2

See end of section for additional schematic.

REF: **See List**
REV:

ITEM	PART NUMBER	QTY	DESCRIPTION
	501001	**REV. F**	**ASSY,ELEVATOR,24.00 TROUGHING (No Illustration)**
1	**501010**	**1.00**	**ELEVATOR SUB-ASSY,LH (See Detail)**
2	**501012**	**1.00**	**ELEVATOR SUB-ASSY,RH (See Detail)**
3	501109	1.00	DEFLECTOR PLATE,ELEV,TOP
4	501115	2.00	MOUNTING PLATE,ELEV,MOTOR
6	501519	2.00	SPACER,RUBBER,MOTOR MOUNT
7	71627	4.00	CSHH,.500-13X1.50,GR5
8	72812	2.00	BELT,CONVEYOR,24 WIDE,W/SPLICE
9	80221	8.00	CSHH,.375-16X1.00,GR5
10	80280	2.00	CSHH,.625-11X1.50,GR5
11	80352	16.00	NUT,FLEXLOC,.375-16,FULL,LT
12	80354	4.00	NUT,FLEXLOC,.500-13,FULL,LT
13	80356	2.00	NUT,FLEXLOC,.625-11,FULL,LT
14	80695	4.00	WASHER,SAE PLAIN,.500
15	80697	2.00	WASHER,SAE PLAIN,.625
16	80996	8.00	WASHER,SAE PLAIN,.375
17	**41888**	**1.00**	**BEARING REMOTE LUBE GROUP (See Detail Opposite)**
18	41981	4.00	W/M,ROLLER,CONVEYOR GUIDE
19	41983	1.00	GUARD,SPILLAGE
20	80226	8.00	CSHH,.375-16X1.50,GR5

	42477	**REV. 0**	**GRP,UPPER ELEVATOR LAGGING (No Illustration)**
1	42476	4.00	HOLD DOWN,TOP LAGGING
3	73117	4.00	LAGGING,CONVEYOR,CENTER,5X121
4	501523	4.00	LAGGING,UPPER CONVEYOR
5	80829	52.00	CRG BOLT,.375-16X1.50,GR5
6	80142	104.00	WASHER,TYPE A PLAIN,.375
7	80162	52.00	WASHER,SPLIT LOCK,.375
8	80038	52.00	NUT,HEX,.375-16

ITEM	PART NUMBER	QTY	DESCRIPTION
	41388	**REV. E**	**DECAL GRP,SPREADPRO**
0	983511	1.00	KIT,DECAL,SPREADPRO
0	984930	1.00	KIT,DECAL,SPREADPRO,ADMARK
0	73154	1.00	DECAL,LUBE,FRONT AXLE,SPREADPRO
0	73155	1.00	DECAL,LUBE,MACHINE,SPREADPRO
0	73156	1.00	DECAL,LUBE,REAR AXLE,SPREADPRO
0	73157	1.00	DECAL,LUBE CHART,SPREADPRO
2	35355	1.00	PLATE,SERIAL NUMBER,ROSCO
5	35952	1.00	DECAL,SMV SIGN COVER
12	34096	2.00	PIN
24	73115	4.00	RIVET,BLIND,AL,.125,.376-.500
28	33630	7.00	STRIPPING,.062
29	33630-2	1.00	STRIPPING,.250

See Safety, Section II of this manual for additional information, and Safety Decal locations.

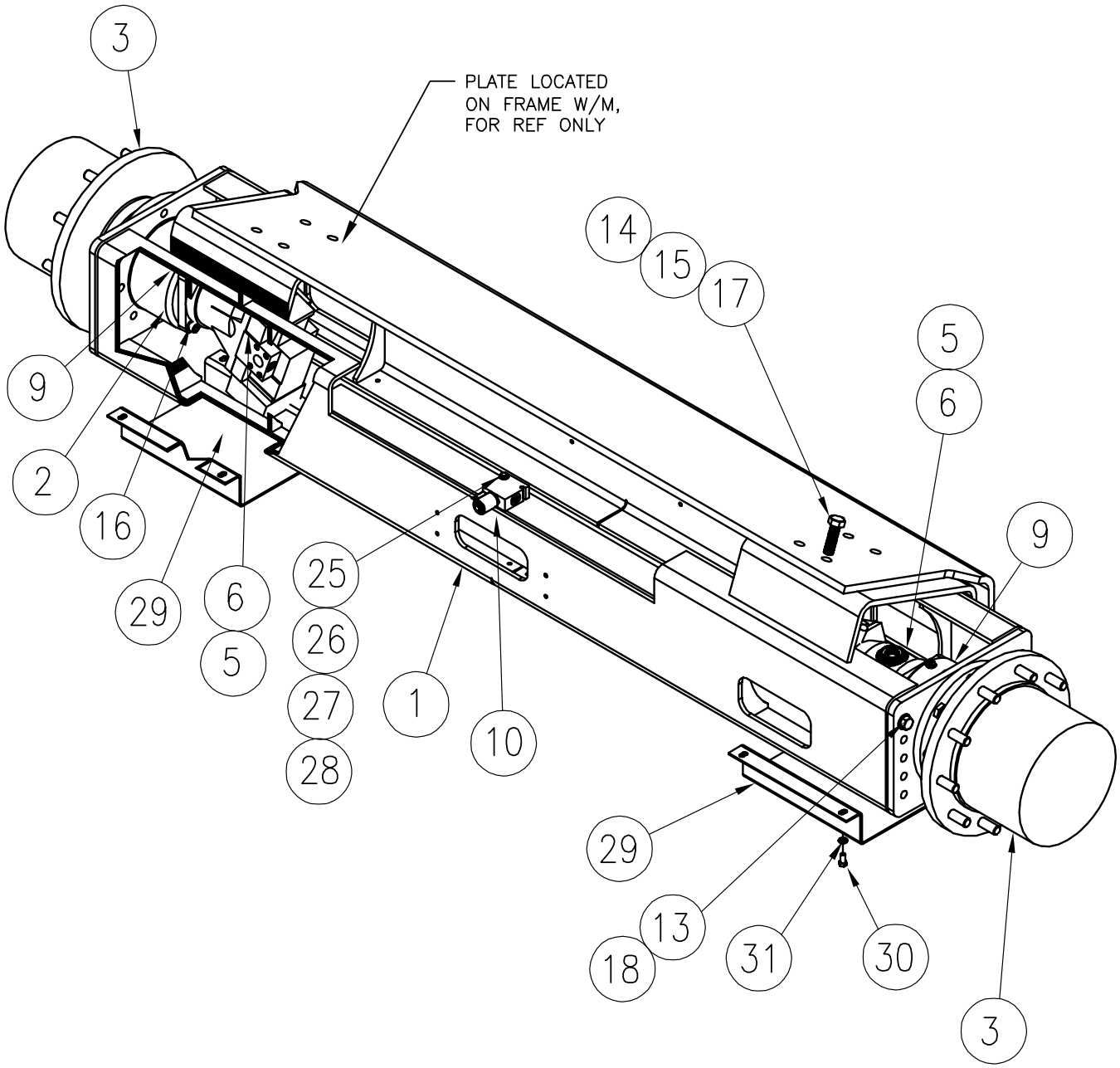

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PLATE LOCATED
ON FRAME W/M,
FOR REF ONLY
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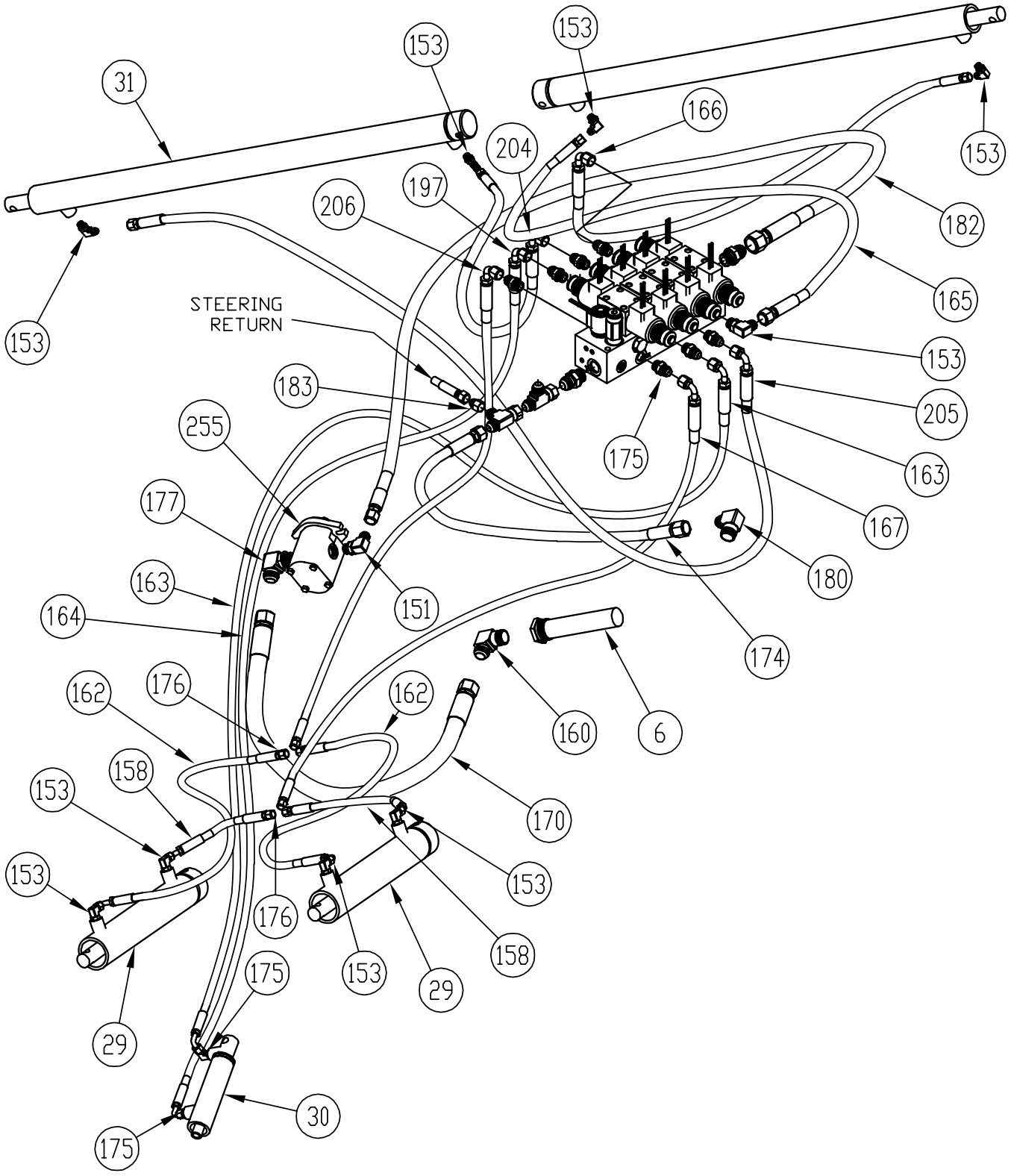
153
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197
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182
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STEERING
RETURN
153
153
183
205
255
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167
180
163
151
164
174
162
176
162
160
6
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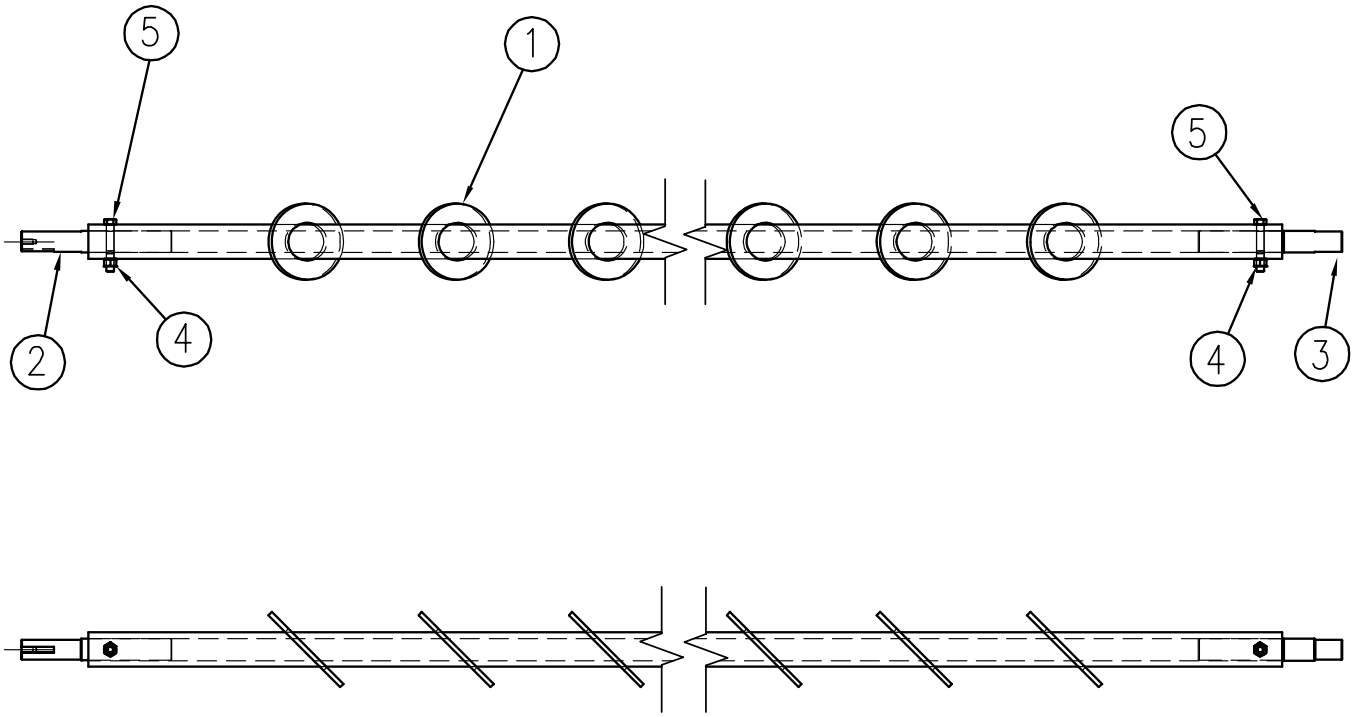
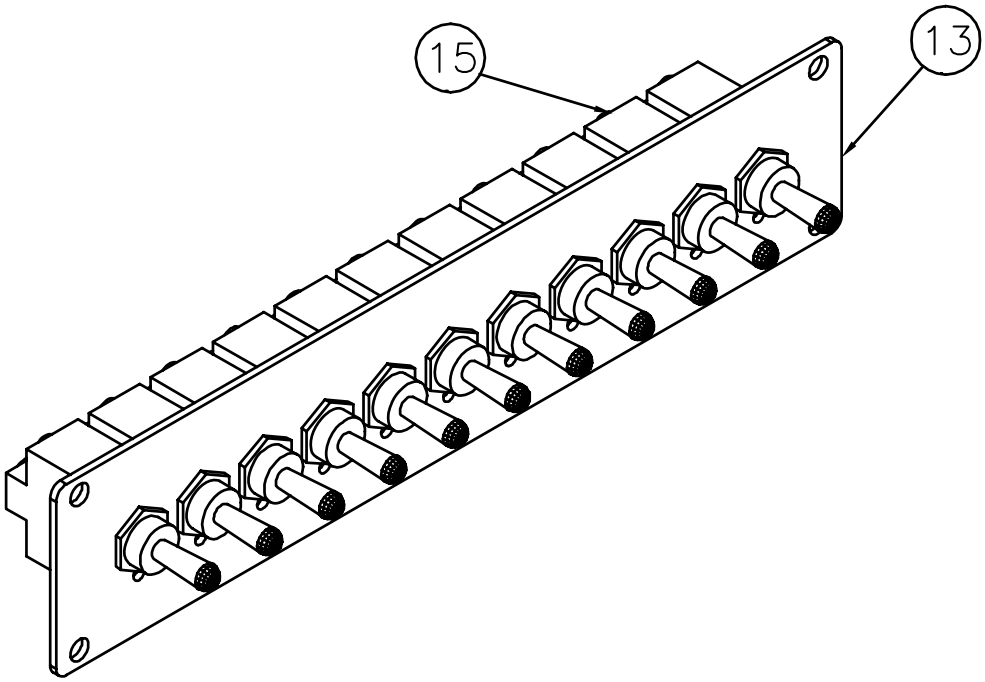
REF: 42180
REV: 0

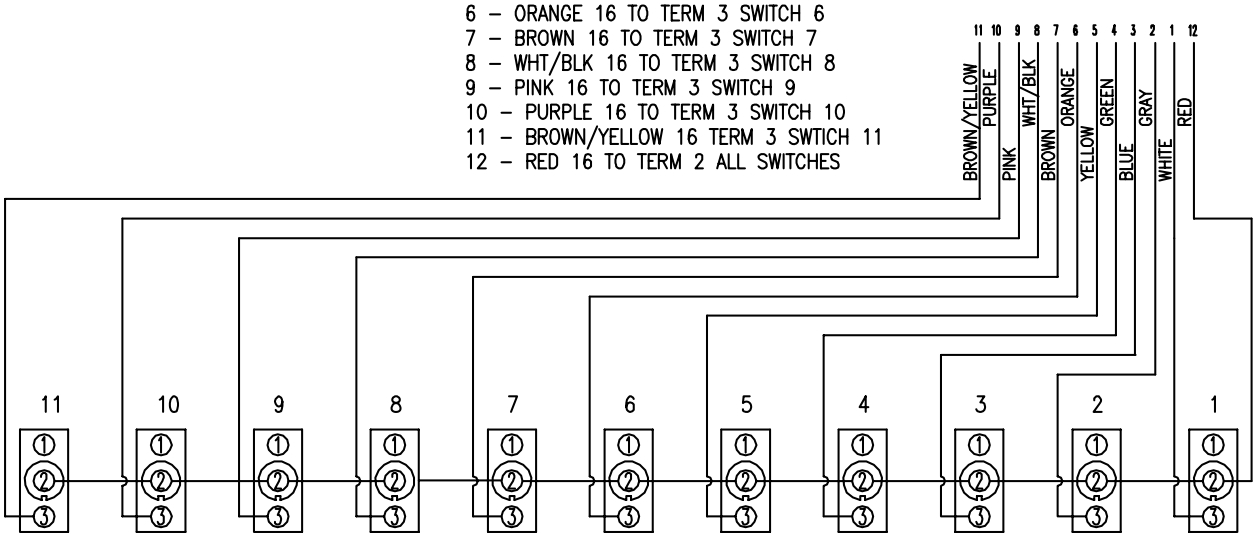
ITEM	PART NUMBER	QTY	DESCRIPTION
	42180		**GRP,CENTER AUGER,20 FT**
1	42181	1.00	W/M,AUGER SHAFT,CTR HOP,20 FT
2	42235	1.00	SHAFT,AUGER,DRIVE END
3	42236	1.00	SHAFT,AUGER,IDLE END
4	80354	2.00	NUT,FLEXLOC,.500-13,FULL,LT
5	80778	2.00	CSHH,.500-13X3.25,GR5





PLUG 12

1 – WHITE 16 TO TERM 3 SWITCH 1
2 – GRAY 16 TO TERM 3 SWITCH 2
3 – BLUE 16 TO TERM 3 SWITCH 3
4 – GREEN 16 TO TERM 3 SWITCH 4
5 – YELLOW 16 TO TERM 3 SWITCH 5
6 – ORANGE 16 TO TERM 3 SWITCH 6
7 – BROWN 16 TO TERM 3 SWITCH 7
8 – WHT/BLK 16 TO TERM 3 SWITCH 8
9 – PINK 16 TO TERM 3 SWITCH 9
10 – PURPLE 16 TO TERM 3 SWITCH 10
11 – BROWN/YELLOW 16 TERM 3 SWTICH 11
12 – RED 16 TO TERM 2 ALL SWITCHES



ALPHABETICAL INDEX

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