



# *Owner & Operators Manual*

## **ECONOMIZER-MINI**

### **ACE TORWEL INC.**

125 DEPOT STREET, BELLINGHAM, MA 02019

Ph: 1-800-225-9415

Fx: 1-888-310-2185

[www.acetorwel.com](http://www.acetorwel.com)

[sales@acetorwel.com](mailto:sales@acetorwel.com)

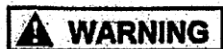
# -Warnings-

**Do Not** attempt to operate this Spreader until you have read and understand all warnings and instructions in the Owner's Manual and on the Spreader Unit. Failure to read and follow all warnings and instructions may lead to serious injury or death.



## MOVING PART HAZARD

- NEVER enter hopper box while conveyor chain is moving.
- DO NOT RIDE on any part of the spreader while vehicle is in motion.
- Disconnect & lock out power source before adjusting or servicing.



## TO AVOID INJURY

- DO NOT operate or service spreader without reading & understanding owner's manual & all warnings.
- AVOID unsafe operation & maintenance.
- KEEP unauthorized people away from equipment & controls.
- KEEP hands, feet, hair and clothing away from any and all moving parts.
- NEVER attempt to un-jam conveyor chain while engine is running.
- NEVER attempt to adjust or service spreader while engine is running.
- DO NOT stand behind material chute while spreader is discharging.
- DO NOT refuel a hot engine. Allow time to cool before refueling.
- DUMP BODY - For Utility Vehicles applications (i.e. J.D. Gator, Kawasaki Mule, etc.,) Dump Body Safety Chain must be attached to secure Dump Body & Prevent accidental release of Dump Body.
- For P/U Truck Applications must use P/N 1SM6 Optional P/U Truck Mount with Chute.

## IMPORTANT

- DO NOT overfill spreader. (See decal on spreader for fill capacity.)
- Failure to keep conveyor chain links lubricated and free running can damage the conveyor chain, drive shafts and body structure.
- Failure to maintain conveyor chain or other components can void warranty.

## Definitions of Hazard Levels

Identify hazard levels with the following symbols, signal words and definitions.



It Means: Immediate hazards which will result in severe personal bodily injury or death.



It Means: Hazards or unsafe practices which could result in severe personal injury or death.



It Means: BE ALERT! Your safety, or the safety of others, is involved.

**Ace Torwel Inc.**  
125 Depot Street,  
Bellingham, MA, 02019.



PH: 1-800-225-9415  
Fax: 1-888-310-2185  
[sales@acelorwel.com](mailto:sales@acelorwel.com)  
[www.acelorwel.com](http://www.acelorwel.com)

# EGM-1200 Economizer-Mini Salt & Sand Spreader

Complete this checklist prior to initial start-up and operation

- Read and understand Torwel's Owner's & Operations Manual
- Read and understand Engine Manual
- Read and understand all Warning Decals
- Check Fuel Level
- Check Engine Oil Level
- Check Hydraulic Oil Level
- Verify that Ignition/Low-Oil Cutoff Switch is in "On/Run" Position
- Verify Hydraulic Shut-Off Valve is in "Open" position
- Grease all Lubrication Points
- Oil Conveyor Chain
- Wire In-Cab Control Panel
- Install Discharge Chute & Spinner Disc
- Secure Top Screen using provided Locking Tab
- Coat Harness Connector Ends with dielectric grease
- Check Battery Connections
- Verify Spreader is secure in vehicle using provided Ratchet Straps



## GENERAL MAINTENANCE REQUIREMENTS

- 1) Wash unit thoroughly after each use
- 2) Lubricate Bearings
- 3) Periodically lubricate conveyor chain with used engine oil
- 4) Check engine oil every 5 hours or daily before use
- 5) Change engine oil every 50 hours of operation of every season
- 6) Service engine air filter every 100 hours of operation or every season
- 7) Change hydraulic oil after 50 hours of operation or every season

**See Page 7 in Owner's Manual for information regarding service and lubrication.**



## INSTALLATION INSTRUCTIONS

### a) GM1200 / GM1200P Econo-Squaller Spreader Installation

The Econo-Squaller Spreader is designed for mounting in the bed of most utility vehicles. Four hold down assemblies are provided for securing the spreader to the vehicle.

**REMINDER:** Any reference to directions concerning Econo-Squaller Spreader parts or as a whole will be designated as viewing the equipment from the rear of the vehicle as it would with normal travel.

Example:

Left	=	Driver's Side
Right	=	Passenger's Side
Front	=	Front of Vehicle
Rear	=	Rear of Vehicle

Remove the tailgate completely from the vehicle if possible. Center the spreader to the bed of the truck and move as far forward as possible. Be sure to leave enough clearance for the material chute installation. Using four hold down assemblies, secure the spreader to the vehicle. (1CS6-P6-01)

**Reference Figure # 1 (Page 8)**

### b) IN-CAB CONTROL PANEL INSTALLATION – STANDARD

Connect the wire terminal end of the harness cable to the control panel. When connecting wires, be sure that the ignition switch is in the "OFF" position. Mount the control panel to the underside of the dashboard; making sure the control panel is grounded to the vehicle.

**Installation Note:** When choosing a location for the control panel, do not position the panel in line with the driver or passenger's seat so there is no possibility of hitting it accidentally.

**Reference Figure # 3 (Page 10)**

### c) DUMP BODY SAFETY CHAIN INSTALLATION (Kit Included)

For Utility Vehicles applications (i.e. J.D. Gator, Kawasaki Mule, etc.) Dump Body Safety Chain must be attached to secure Dump Body and prevent accidental release of Dump Body. Attach eyebolts to frame and dump body of the utility vehicle. Using the 32" chain and the one link connectors, attach the chain to the eyebolts installed on the frame and dump body. (1CS6-P6-02 through 04) To be used in conjunction with the Hold Down Assemblies. Attaching this chain will prevent an accidental release of the Dump Body. – This kit is not required for pick-up truck use.

**CAUTION:** Failure to attach this chain may result in an accidental Dump Body, damaging the spreader, the Utility Vehicle or persons seated in the vehicle or standing nearby.

**Reference Figure # 1 Page 8**



## OPERATING INSTRUCTIONS

### A) ENGINE STARTING & CAB CONTROLS

- 1) Verify that the ON/OFF Switch is in the ON/RUN position on the cab control panel.
- 2) Go to the engine at the rear of the spreader. Move the throttle control to the fast position. Push primer bulb firmly 3 – 5 times. Grasp rope handle and pull cord rapidly to start engine. (See engine manual for details).
- 3) From the cab control panel, flip the conveyor switch to the “ON” position, this will engage the conveyor chain and spinner disc. (The indicator light will come on)

### B) GATE HEIGHT ADJUSTMENT

- 1) Loosen (2) gate screws
- 2) Adjust gate to the desired height
- 3) Tighten gate screws

### C) MATERIAL CHUTE DEFLECTORS

Adjust the material deflectors to fine tune the spread pattern. Keep all material deflectors at the same angle.

For a large spread pattern: Raise Deflectors

For a smaller spread pattern: Lower Deflectors

**Important:** Never attempt to adjust material deflectors while the spread is operating.

### D) CONVEYOR CHAIN ADJUSTMENT

Tighten both take-up bolts equally until slack is gone in the conveyor chain.

**Adjustment Note:** After adjustment of the conveyor chain, verify that the take-up shaft is not cocked at an angle.

**Important:** Never attempt to adjust conveyor chain while spreader engine is running.

### E) OPTIONAL PICKUP TRUCK MOUNT

Reference Figure # 9 (Page 15)



## GENERAL INFORMATION

### A) SAFETY PRECAUTIONS

- 1) DO NOT operate the spreader without first reading and understanding the Operator's Manual and All Warning decals.
- 2) DO NOT lubricate or repair any moving parts while the spreader is running.
- 3) DO NOT go into the hopper body while spreader is running.
- 4) DO NOT refuel a hot engine while the engine is running.
- 5) DO NOT stand directly behind material chute while spreader is discharging.
- 6) If conveyor chain becomes clogged, DO NOT attempt to loosen chain while the spreader is operating.
- 7) Keep hands, feet and loose clothing away from all moving parts.

### B) LUBRICATION

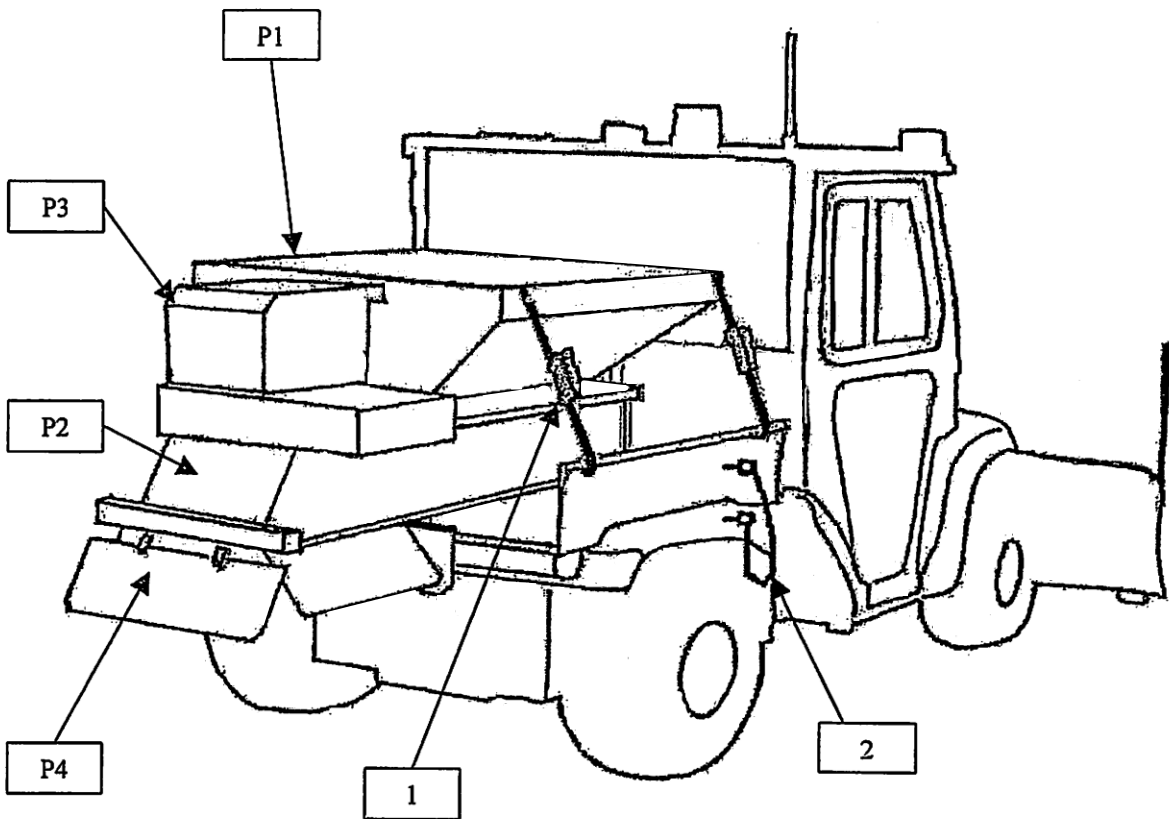
<u>LOCATION</u>	<u>LUBE TYPE</u>
Engine Oil	SAE 30
Take-Up Bearings	Bearing Grease
4 Bolt Flange Bearings	Bearing Grease
Spinner Bearings	Bearing Grease
Conveyor Chain	Engine Oil

### C) SERVICE

<u>LOCATION</u>	<u>RECOMMEND</u>	<u>INTERVAL</u>
Engine Oil	Check	5 Hours or Daily
Engine Oil	Change	50 Hours or 1 Season
Engine Filter	Check or Change	100 Hours or 1 Season
Spark Plugs	Check or Change	100 Hours or 1 Season
Harness Connectors	Check Condition	50 Hours or Monthly
All Bearings	Lubricate	50 Hours or Monthly
Conveyor Chain	Lubricate	100 Hours or 1 Season



For Off-Road Utility Vehicles only (I.E. Kawasaki: Mule, John Deere: Gator, etc...). For P/U Truck Applications see pages 13 through 16 for 1SM6 instructions.



1.) Hold Down Assembly: 4 - 5' Ratchet assemblies x 1" black web with wire hooks, 12" fixed and 60" OAL. (ICS6-P6-01)

2.) Dump Body Safety Kit: 2 - 3/16" x 4" eyehooks, 1 - 3/16" quick links and 1 - 3/16" chain 32 links long. To be used in conjunction with Hold Down Assembly for dump bodies. (ICS6-P6-02 through 04)

- |                         |   |                     |
|-------------------------|---|---------------------|
| P1 - Hopper Assembly    | - | Figure #2 (Page 9)  |
| P2 - Conveyor Assembly  | - | Figure #6 (Page 11) |
| P3 - Engine Assembly    | - | Figure #6 (Page 11) |
| P4 - Discharge Assembly | - | Figure #6 (Page 11) |

Figure 1



	QTY	DESCRIPTION	PART	
1	1	HOPPER ASSEMBLY	EGM-P1-00	or EGM-P1-00
2	1	ENGINE COVER	EGM-P3-00	or EGM-P3-00
3	1	MOTORBED PLATE	EGM-P3-01	or EGM-P3-01
4	1	BUMPER	EGM-P2-03	or EGM-P2-03
5	1	DEFLECTOR - FIXED	EGM-P2-08	or EGM-P2-08
6	3	DEFLECTORS	EGM-P2-09	or EGM-P2-09
7	1	CONVEYOR ASSEMBLY	SEE FIG. 6 PAGE 11	
8	1	GATE	EGM-P1-11	or EGM-P1-11
9	1	GATE GUIDE	EGM-P1-12	
10	1	SPINNER COVER	EGM-P2-06	or EGM-P2-06
11	1	LIFTING EYE	EGM-P1-14	

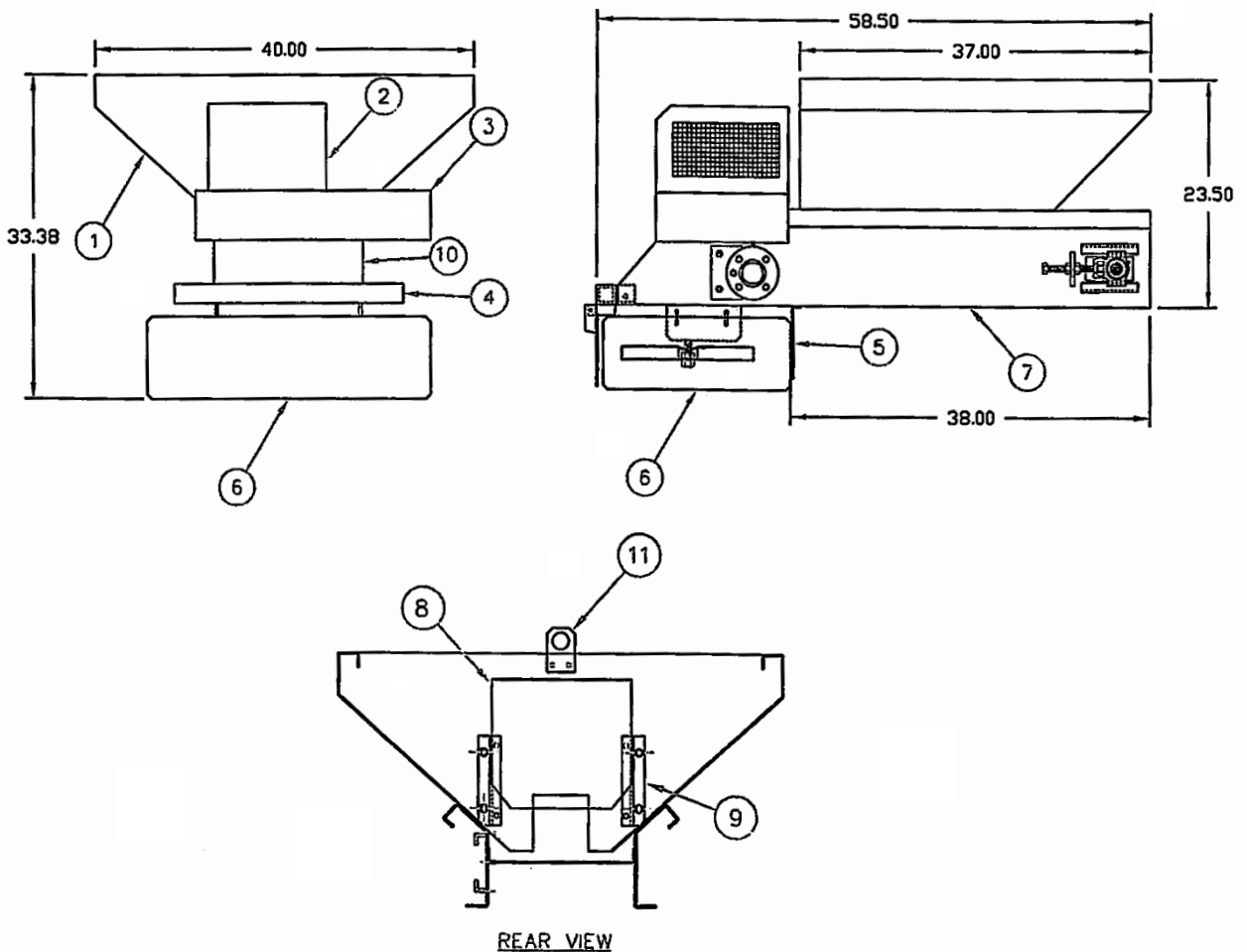


FIG-2



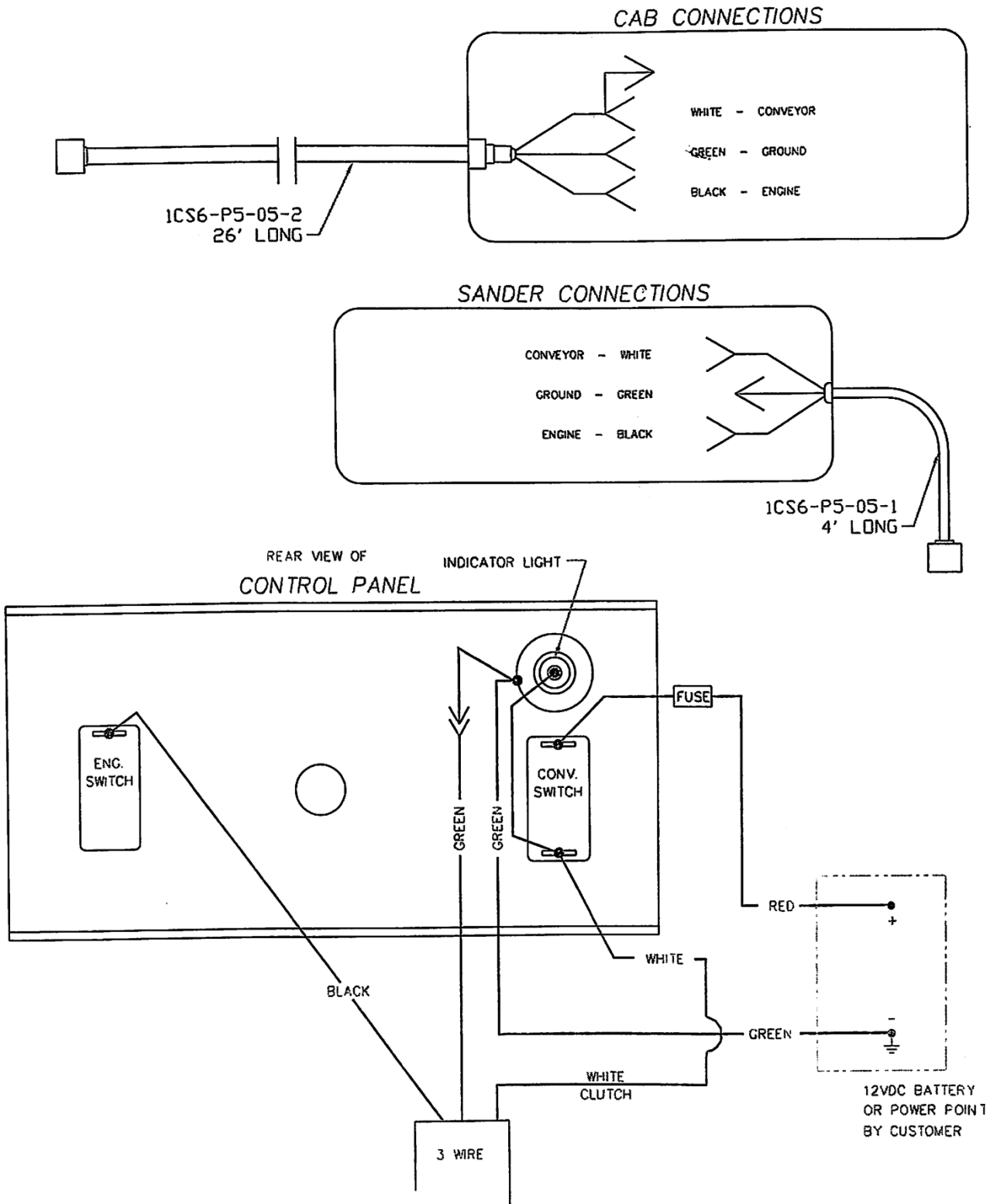
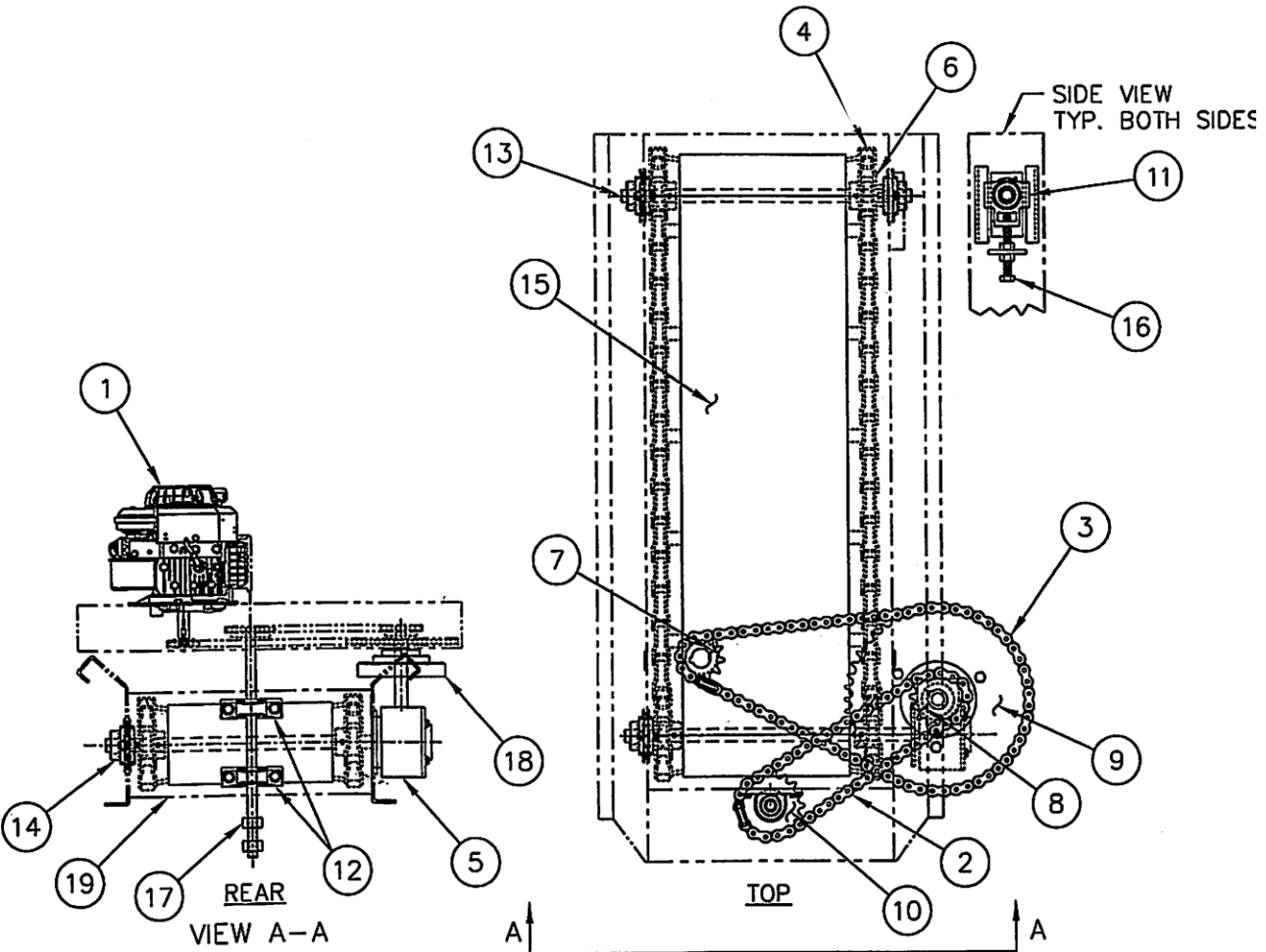


FIG-3

# Drive Assembly Schematic Parts Breakdown

	QTY	DESCRIPTION	PART
1	1	3.75 HP ENGINE	EGM-P3-375
2	1	# 40 SPINNER DRIVE CHAIN	EGM-P4-02
3	1	# 40 CLUTCH DRIVE TRAIN	EGM-P4-03
4	1	CONVEYOR CHAIN	EGM-P4-04
5	1	GEAR BOX	EGM-P4-05
6	4	8 T SPROCKET 1" BORE	E11
7	1	11 T SPROCKET 7/8 BORE	EGM-P4-06
8	1	16 T SPROCKET 1" BORE	EGM-P4-07
9	1	52 T SPROCKET 3" BORE	EGM-P4-08
10	1	24 T SPROCKET 3/4 BORE	EGM-P4-09
11	2	1" TAKE UP BEARING	E10
12	2	3/4" PILLOW BLOCK BEARING	EGM-P4-11
13	1	1" TAKE UP SHAFT	EGM-P4-12
14	1	4 BOLT BEARING	E13
15	1	CONVEYOR BELT	EGM-P4-14
16	2	5/8 TAKE UP BOLT	E104
17	2	SPINNER SHAFT NUTS	EGM-P4-16
18	1	CLUTCH	EGM-P5-03
19	1	PILLOW BLOCK BRACKET	EGM-P2-01



## TROUBLE SHOOTING

<b>Engine/Electrical</b>		
<b>Symptom</b>	<b>Possible Problem</b>	<b>Solution</b>
Engine will not start	On/Off Switch on control panel in OFF position	Put On/Off switch in ON position
	Fuel tank empty	Add fuel
	Water in fuel	Drain fuel tank, add fresh fuel
	Loose wiring connection	Visually inspect harness connections
Engine will not shut off	Bad or missing ground at control panel	Ground control panel to vehicle
Engine smokes while running	Clogged air filter	Clean and replace air filter
	Overfilled oil level in engine	Check engine oil level
General engine questions		Refer to engine "Owner's Manual"
<b>Conveyor</b>		
<b>Symptom</b>	<b>Possible Problem</b>	<b>Solution</b>
Not enough material being spread	Gate not adjusted properly	Open gate for desired amount of material
Too much material being spread	Gate not adjusted properly	Close gate for desired amount of material
Conveyor chain has too much slack	Take-up bearings out of adjustment	Adjust take-up bolts at front of spreader. Tighten bolts to reduce slack.
Take-up bolts have no adjustment left	Conveyor chain has stretched	Loosen take-up bolts completely. Remove links from conveyor chain. Re-adjust take-up bolts.
Conveyor chain does not move	Debris or frozen material stuck in conveyor chain	Dislodge material from conveyor chain.
	No power to electrical clutch	Verify electric switch is getting power.
		Check and inspect harness connections
		Verify connections at electric clutch.
<b>Spinner</b>		
<b>Symptom</b>	<b>Possible Problem</b>	<b>Solution</b>
Spinner disc does not turn	Loose connection between shaft & disc	Tighten mounting nuts on shaft
Spinner disc vanes wear early	Suspect material	Check material being spread for rocks

