



**GASOLINE ENGINE  
HIGH CAPACITY  
HOPPER SPREADER  
INSTALLATION, OPERATION,  
AND MAINTENANCE MANUAL**

**This manual is for Western High Capacity Spreaders with the following serial numbers: (1977- )**



# WESTERN® HIGH CAPACITY HOPPER SPREADER MANUAL

## PREFACE

Welcome to the growing family of WESTERN® Spreader owners.

This manual provides safety, installation, operation, and maintenance information for your new WESTERN Spreader. Read this manual carefully and follow its recommendations before, during, and after operating the spreader. To keep your spreader operating safely and efficiently, insist that all operators and maintenance personnel read and understand this manual.

When service is necessary, your local Western distributor knows your spreader best, and is interested in your complete satisfaction. Return your spreader to the distributor for maintenance, service, or any other assistance you require. Always obtain original Western service parts from your Western distributor. Never accept any substitute items as they could affect the performance and warranty of this product.

Before using your WESTERN Spreader, make sure your vehicle is equipped with all vehicle manufacturer's and Western's recommended options for spreading.

**NOTE:** This spreader is designed to spread snow and ice control materials only. Do not use the spreader for purposes other than those specified in this manual.

**NOTE:** All reference to "Left" and "Right" sides relate to equipment as viewed from the rear, and facing the normal direction of vehicle travel.

**NOTE:** Empty the spreader when it is not in use to prevent a frozen conveyor chain.

# TABLE OF CONTENTS

|   |    |
|---|----|
| PREFACE                                   |    |
| TABLE OF CONTENTS                         |    |
| SAFETY PROCEDURES                         | 1  |
| Warnings                                  | 1  |
| Cautions                                  | 1  |
| Battery Safety                            | 1  |
| GENERAL INFORMATION                       | 2  |
| Torque Chart                              | 2  |
| Abbreviations                             | 2  |
| INSTALLATION INSTRUCTIONS                 | 3  |
| Mounting the Spreader Onto the Vehicle    | 3  |
| Chute Assembly                            | 3  |
| Cab Control and Wire Harness Installation | 4  |
| Hook Installation                         | 5  |
| Plug Cover Installation                   | 5  |
| Using the Hook                            | 5  |
| Battery Installation Options              | 6  |
| Spreader Battery Kit Installation         | 6  |
| Vehicle Battery Kit Installation          | 6  |
| OPERATION                                 | 7  |
| Cab Control Identification                | 7  |
| Starting the Engine                       | 7  |
| Stopping the Engine                       | 7  |
| Clutch Operation                          | 8  |
| Baffle Adjustment                         | 8  |
| Internal Baffle Adjustment                | 9  |
| External Baffle Adjustment                | 9  |
| MAINTENANCE                               | 10 |
| Engine Service and Repair                 | 10 |
| REPAIR PARTS                              | 11 |
| Chute Assembly                            | 11 |
| Conveyor Drive and Idler                  | 12 |
| Engine Drive with Clutch                  | 14 |
| Feed Gate                                 | 16 |
| Labels                                    | 16 |
| Cab Control                               | 17 |
| Vehicle Harness                           | 18 |
| Spreader Harness                          | 18 |
| Plug Cover                                | 18 |
| Hook                                      | 18 |
| Electric Throttle Replacement             | 19 |
| CENTER HIGH-MOUNTED STOP LAMP (CHMSL) KIT | 20 |
| INVERTED VEE ASSEMBLY                     | 21 |

## SAFETY PROCEDURES

Read this manual and spreader labels before using the spreader.



**WARNING:** Identifies conditions or actions which could result in severe injury to yourself or others, or death.

**CAUTION:** Identifies conditions or actions where equipment damage could occur.

**NOTE:** Identifies tips, helpful hints, and maintenance information the reader should know.

Observe the following safety procedures before and during the use of the spreader. By following these rules and applying common sense, possible injury and potential damage to the machine may be avoided.



### WARNINGS:

- Before operating the spreader, check that all safety guards are in place.
- Before starting the spreader, check that no one is standing in the spreader spray area.
- Before working with the spreader, secure all loose fitting clothing and unrestrained hair.
- Stop the spreader before leaving the vehicle to unclog, adjust, oil, or clean the spreader.
- Wait for all movement to stop before servicing the spreader.
- Keep hands, feet, and clothing away from power-driven parts.
- Do not climb on or allow others to climb on the spreader.

### CAUTIONS:

- Do not operate a spreader in need of maintenance.
- Before operating the spreader, reassemble any parts or hardware that were removed.
- Before operating the spreader, remove materials such as cleaning rags, brushes, and hand tools from the spreader.
- Use auxiliary warning lights, except when prohibited by law, when operating the spreader.

### Battery Safety



**WARNING:** A charging battery gives off explosive gases when touched by a spark or flame. Cover the top of the battery with electrically non-conductive material to keep sparks away from battery gases.

- Never lay tools or equipment on the battery. This could accidentally ground the POSITIVE (+) battery terminal, resulting in electrical shock or burns, or damage to the vehicle or equipment.
- Avoid contact with battery acid. It can seriously burn eyes or skin, and burn holes in clothing.
- Always disconnect the battery before removing or replacing electrical components such as the Starter Relay or the battery cables.

# GENERAL INFORMATION



**WARNING:** Check the vehicle's load rating certification sticker for the maximum vehicle capacity, and DO NOT overload beyond the vehicle's GVWR or GAWR. Overloading could result in an accident, or damage to the vehicle.

Use the following tables to calculate the vehicle payload whenever you place material in the spreader.

| BODY SIDE LENGTH | OVERALL LENGTH (Inches) | EMPTY WEIGHT (lbs.) (No Screen or Battery) | CAPACITY, STRUCK (cubic yd.) | CAPACITY, ROUNDED (cubic yd.) | WIDTH (Inches) | HEIGHT (Inches) | RECOMMENDED USE               |
|------------------|-------------------------|--|------------------------------|-------------------------------|----------------|-----------------|-------------------------------|
| 8' Mild Steel    | 113                     | 850  | 2.6 *                        | 3.2*                          | 58             | 38              | Trucks above 15,000 lbs. GVWR |
| 10' Mild Steel   | 137                     | 940  | 3.3**                        | 4.1**                         | 58             | 38              |                               |

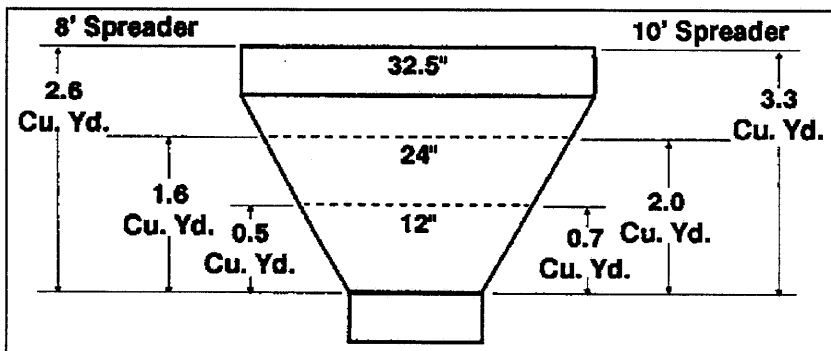
\* 6" Side Extension adds 0.7 cu. yd. capacity, 12" Side Extension adds 1.4 cu. yd. capacity.

\*\* 6" Side Extension adds 0.9 cu. yd. capacity, 12" Side Extension adds 1.8 cu. yd. capacity.

| MATERIAL WEIGHTS  |                             |
|-------------------|-----------------------------|
| MATERIAL          | WEIGHT (lbs. per cubic yd.) |
| # 1 Rock Salt     | 950                         |
| # 2 Rock Salt     | 1,215                       |
| Coarse Sand - Dry | 2,565                       |
| Coarse Sand - Wet | 3,240                       |

## Torque Chart

| Recommended Fastener Torque  |             |             |             |  |
|--|-------------|-------------|-------------|--|
| Size   | SAE Grade 2 | SAE Grade 5 | SAE Grade 8 |  |
| 1/4-20   | 6           | 9           | 13          |  |
| 5/16-18  | 11          | 18          | 28          |  |
| 3/8-16   | 19          | 31          | 48          |  |
| 3/8-24   | 24          | 48          | 68          |  |
| 7/16-14  | 30          | 50          | 75          |  |
| 1/2-13   | 45          | 75          | 115         |  |
| 9/16-12  | 66          | 110         | 165         |  |
| 5/8-11   | 93          | 150         | 225         |  |
| Metric Grade 8.8 (Ft.-Lbs.)  |             |             |             |  |
| Size   | Torque      | Size        | Torque      |  |
| M 6  | 7           | M 12        | 90          |  |
| M 8  | 17          | M 14        | 95          |  |
| These torque values apply to mount assembly fasteners except those noted in the instruction. |             |             |             |  |



## Abbreviations

|         |                     |      |                         |      |                 |
|---------|---------------------|------|-------------------------|------|-----------------|
| AR      | As Required         | FL   | Flat                    | SO   | Socket Head     |
| ASSY    | Assembly            | G    | Grade                   | SP   | Split           |
| CB      | Carriage Bolt       | HX   | Hex                     | SPKT | Sprocket        |
| CENTRIF | Centrifugal         | HYD  | Hydraulic               | SQ   | Square Head     |
| CHMSL   | Center High-Mounted | LK   | Lock                    | SS   | Set Screw       |
|         | Stop Lamp           | MS   | Machine Screw           | STD  | Standard        |
| CONV    | Conveyer            | NYIS | Nylon Insert            | STS  | Stainless Steel |
| CPLG    | Coupling            | PT   | Prevailing Torque       | T    | Tooth           |
| CS      | Capscrew            | REQ  | Required                | TY   | Type            |
| ELEC    | Electric            | SDTS | Self Drilling Tap Screw | ZP   | Zinc Plated     |

# INSTALLATION INSTRUCTIONS

## Mounting the Spreader onto the Vehicle

**NOTE:** Refer to the Repair Parts Diagrams (pages 11-19) to help identify the parts referenced in the following text.

1. If the truck has a tailgate, remove it according to the instructions from the manufacturer of the truck.



**WARNING:** Before lifting, check that the hopper is empty. The lifting device must be capable of lifting 940 lbs. minimum (the weight of the 10' spreader).

2. Lift the spreader by hooking all four loops located at each corner of the hopper. The balance point may vary due to engine fluid levels, battery, top screen, or any residual material in the hopper.
3. Place lengths of lumber (minimum hardwood 2"x4"x3' or stronger) under the side supports of the spreader. By elevating the spreader off of the vehicle, it is easier to remove excess material that accumulates under the spreader.
4. Center the spreader on the vehicle with the end of the rails extending 11" beyond the nearest vertical obstruction (end of the truck bed, bumper, trailer hitch, etc.).
5. Bolt the spreader and the lengths of lumber to the vehicle frame using the holes located at each lower support leg. Use 1/2" hardware as required by vehicle application.

**NOTE:** Pay special attention when drilling or clamping dissimilar metals to aluminum bodies. Galvanic corrosion can occur if not handled properly. Contact vehicle manufacturer for recommended attachment practices.

6. Using the Tie-down Chains, secure the spreader to the vehicle using the tabs located at the corners of the spreader and the vehicle's factory installed anchor points.

**NOTE:** Check the mounting devices periodically through the snow season to make sure they are secure.

## Chute Assembly

1. Loosely attach the Chute Assembly using four 3/8" x 3/4" bolts, lock washers, and nuts, with the head of the bolt on the inside of the chute. (On the 31" Chute Assembly, remove the Access Panel on the Chute Housing for easier access to the mounting holes.)

Push the Chute Assembly toward the front of the vehicle. DO NOT tighten the bolts.

2. Install the Roller Chain and Master Link between the Spinner Shaft Sprocket and the Gear Case Sprocket. Check that the sprockets are in line. Check that the Sprocket Set Screws are tight.
3. Adjust the roller chain tension by loosening the Spinner Shaft Bearing Bolts and moving the Spinner Shaft away from the Gear Case. Maintain vertical position of the shaft and alignment of sprockets when tightening bearing fasteners.

After adjusting, correct chain tension should allow a 5/16" deflection midway between the sprockets. Additional chain tension may be applied by pulling the Chute Assembly toward the rear. Tighten all fasteners according to the Torque Chart on page 2.

4. Install the Chain Guard using three 1/4" x 3/4" long hex capscrews, lock washers, and nuts.
5. *31" extended chute only:* Secure the Access Panel onto the Chute Housing.

# INSTALLATION INSTRUCTIONS

## Cab Control and Wire Harness Installation

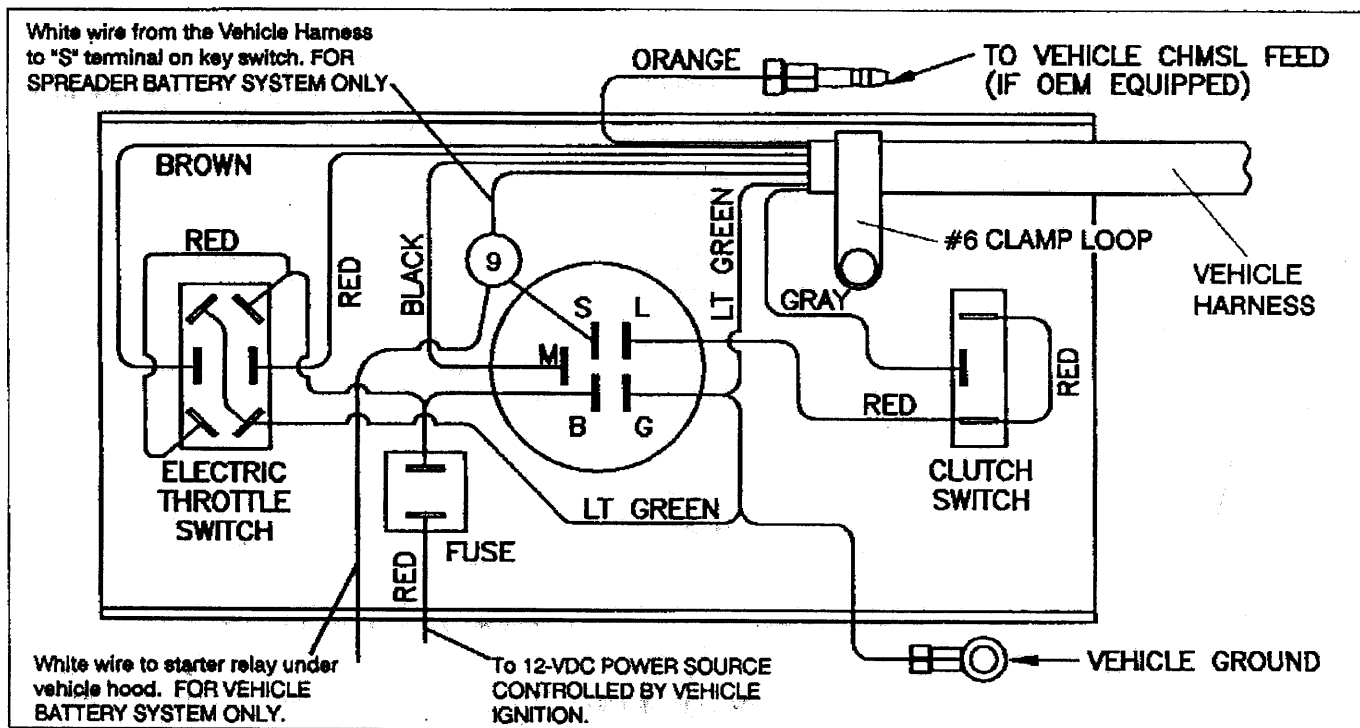
**NOTE:** Use dielectric grease on all electrical connections.

1. Attach the Spreader Harness to the side of the spreader using factory drilled holes and number six Clamp Loops.
2. Plug the Vehicle Harness into the Spreader Harness.
3. Layout a path, through the floor, for routing the Vehicle Harness into the cab. Check that the Vehicle Harness avoids any hot or moving parts of the truck.

**CAUTION:** Before drilling any holes, check both sides of the material for any wires, fuel lines, fuel tanks, etc. that may be damaged while drilling.

4. Drill a 5/8" hole in the floor such that the Vehicle Harness can reach the desired Cab Control location. Insert the grommet into the hole and route the harness to the desired location.
5. Connect the Vehicle Harness to the Spreader Cab Control according to the Cab Control Wiring Diagram below. Use a number six Clamp Loop to secure the Vehicle Harness to the cab control bracket.

### Cab Control Wiring Diagram



6. Mount the Cab Control in a convenient location. Due to the variety of possible in-cab locations, a mounting bracket and hardware are not provided. A suitable bracket should be made and fastened to the cab.
7. Connect the light green wire from the Vehicle Harness to a known ground on the vehicle.
8. Connect the Power Wire - Red to an accessory wire or terminal that is controlled by the vehicle's ignition switch.



# INSTALLATION INSTRUCTIONS

## 9. For Spreader Battery System ONLY

Connect the white wire from the Vehicle Harness to the "S" terminal on the key switch. See the diagram on page 4.

## For Vehicle Battery System ONLY

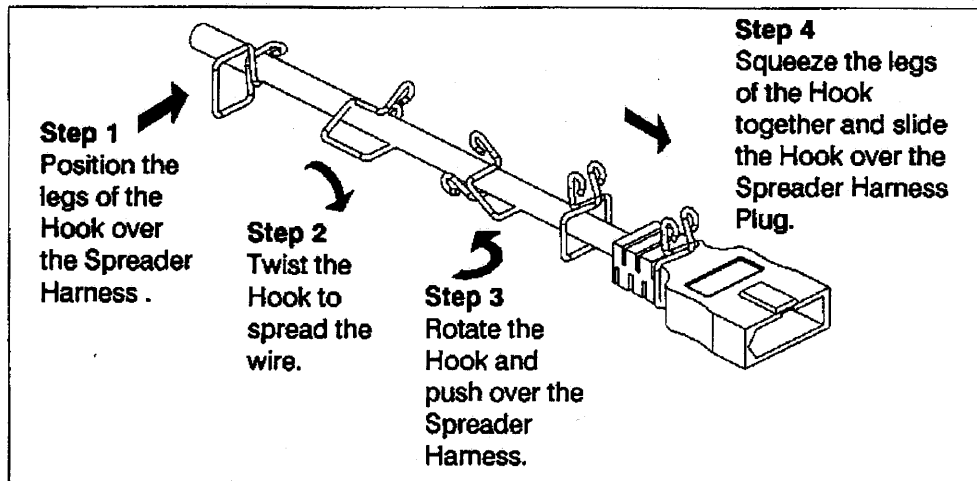
Connect the Relay Wire - White from the Starter Relay to the "S" terminal on the key switch. The white wire from the Vehicle Harness will not be used. See the diagram on page 4.

Also, refer to the Vehicle Battery Kit Installation Instructions, page 6.

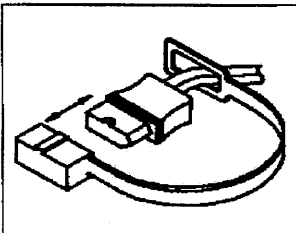
## 10. Install the Plug Cover and Hook according to the diagrams shown below.

**NOTE:** The cab control wiring must be protected from abrasion and cutting from sharp edges during installation and operation. Tape, grommets, etc. should be used.

### Hook Installation

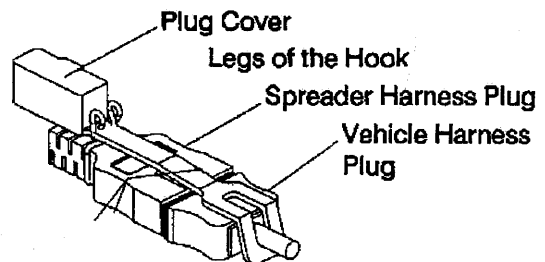


### Plug Cover Installation



### Using the Hook

After connecting the Spreader Harness Plug to the Vehicle Harness Plug, secure the Plug Cover into the legs of the Hook as shown.



### Battery Safety



**WARNING:** A charging battery gives off explosive gases when touched by a spark or flame. Cover the top of the battery with electrically non-conductive material to keep sparks away from battery gases.

- Never lay tools or equipment on the battery. This could accidentally ground the POSITIVE (+) battery terminal, resulting in electrical shock or burns, or damage to the vehicle or equipment.
- Avoid contact with battery acid. It can seriously burn eyes or skin, and burn holes in clothing.
- Always disconnect the battery before removing or replacing electrical components such as the Starter Relay or the battery cables.

# INSTALLATION INSTRUCTIONS

## Battery Installation Options

Install either the Spreader Battery Kit or the Vehicle Battery Kit, and follow the corresponding instructions.

### Spreader Battery Kit Installation

1. Install a 12-volt battery with a minimum rating of 400 cold cranking amps. The Battery Box will accept any Group 65, 64, 27, 24, or 22 series Top Terminal battery.
2. Mount the Starter Relay to the Engine Mount using 1/4-20 fasteners. Connect the two green wires from the Spreader Harness to one of the Starter Relay mounting bolts.
3. Connect the Starter Cable from the starter to the Starter Relay.
4. Connect the Alternator Wire with Plug to the engine.
5. Connect the Alternator Wire with Plug and the Red Battery Cable to the unused terminal of the Starter Relay.
6. Connect the Red Battery Cable to the POSITIVE (+) terminal of the battery. Secure to the spreader with #10 Clamp Loops.
7. Attach one end of the Black Battery Cable to the spreader battery tray using a 3/8" bolt, lock washer, and nut. Connect the other end to the NEGATIVE (-) terminal of the battery.
8. Connect the white wire from the Spreader Harness to the primary terminal of the Starter Relay.

### Vehicle Battery Kit Installation

1. Verify the vehicle battery is in good condition.
2. Disconnect the ground cable from the battery.
3. Place the Starter Relay within 18" of the vehicle primary battery in an area protected from road splash.  
The mounting surface needs to be grounded. If a grounded surface is not available, install a wire (not supplied) between a known ground and the Starter Relay mounting flange after installing the Starter Relay.
4. Using the Starter Relay Mounting Flange as a template, drill two 9/32" holes and fasten with two 1/4" x 3/4" bolts, flat washers, and lock nuts.
5. Install the Battery Cable 22" between the POSITIVE (+) battery terminal and to one of the secondary terminals of the Starter Relay. A Battery Cable Adapter Kit is provided for side terminal batteries.  
Check that the cable is protected or secured away from all sharp edges, and hot or moving parts.
6. Install and secure the Relay Wire - White between the Cab Control and the primary terminal of the Starter Relay. See the Cab Control Wiring Diagram on page 4 to connect the Relay Wire - White to the Keyed Ignition Switch.  
Check that the wire is protected or secured away from all sharp edges, and hot or moving parts.
7. At the front of the spreader, feed the Spreader Cable through the holes in the side supports and up through the 1" grommet in the engine base used by the Spreader Harness.  
Connect the solid black wire of the cable and the two green wires from the Spreader Harness to the engine mount using a 1/4-20 fastener.  
Connect the red striped wire to the starter motor terminal.
8. Using the fasteners that secure the Spreader Harness, secure the Spreader Cable to the side of the spreader with #10 Clamp Loops.
9. Connect the Spreader Cable to the Vehicle Cable.
10. Route the Vehicle Cable under the cab, into the vehicle engine compartment, and over to the spreader's Starter Relay installed in step 3.

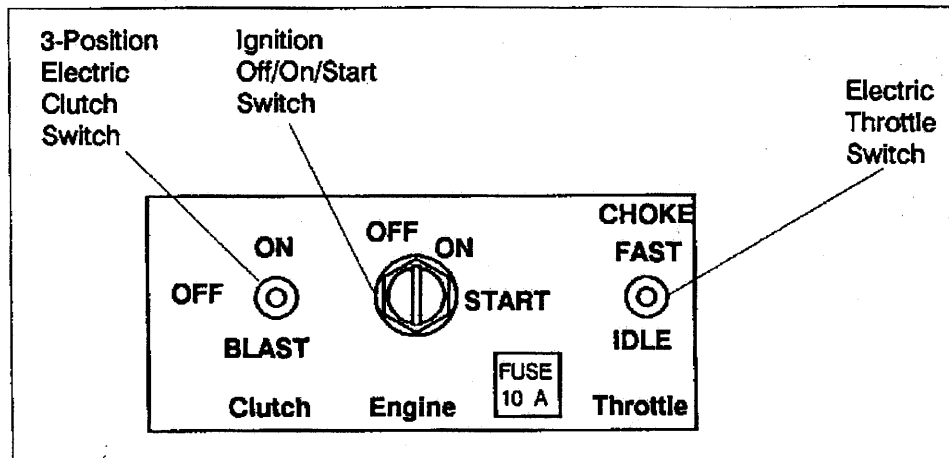
## INSTALLATION INSTRUCTIONS

11. Secure the Vehicle Cable to the vehicle avoiding sharp edges, and hot or moving parts. Check that the Vehicle Cable cannot drop onto the road when it is disconnected from the spreader.
12. Connect the solid black wire of the Vehicle Cable to the vehicle engine ground. Connect the red striped wire to the unused secondary terminal of the Starter Relay.
13. Reconnect the ground cable to the battery.

## OPERATION

### Cab Control Identification

Cab Control - Electric Throttle



**NOTE:** The conveyor and spinner will operate when the clutch switch is in the "ON" or the "BLAST" position.

### Starting the Engine

**NOTE:** Read and understand the engine manufacturer's owner's manual before starting the engine.

1. Turn the vehicle Ignition to "ON."
2. Verify that the clutch switch is "OFF."
3. Turn the spreader ignition to "ON," (labeled "Engine" on the Cab Control).
4. Move the throttle switch to "IDLE," and hold for two seconds; release.
5. Turn the Ignition switch to "START."
6. While the engine is cranking, move the throttle switch to "CHOKE/FAST."
7. Release the throttle switch when the engine starts to fire.
8. Release the Ignition switch when the engine starts. If the engine does not start after 10 seconds of cranking, turn both Ignition switches to "OFF" and see the Briggs & Stratton Owner's Manual (shipped with the spreader).
9. After the engine starts, move the throttle switch to "IDLE" for 1/2 - 1 second to release the choke.
10. To control the engine speed:
  - *Increase:* hold the throttle switch at "CHOKE/FAST."
  - *Decrease:* hold the throttle switch at "IDLE."

**NOTE:** Maximum engine speed is obtained just prior to choking the engine.

### Stopping the Engine

Turn the spreader Ignition switch to "OFF."

# OPERATION

## Clutch Operation

1. Start the engine and adjust the speed to slightly above idle.
2. Move the clutch switch to "ON."
3. Increase the engine speed to the desired RPM.

Observe the following recommendations:

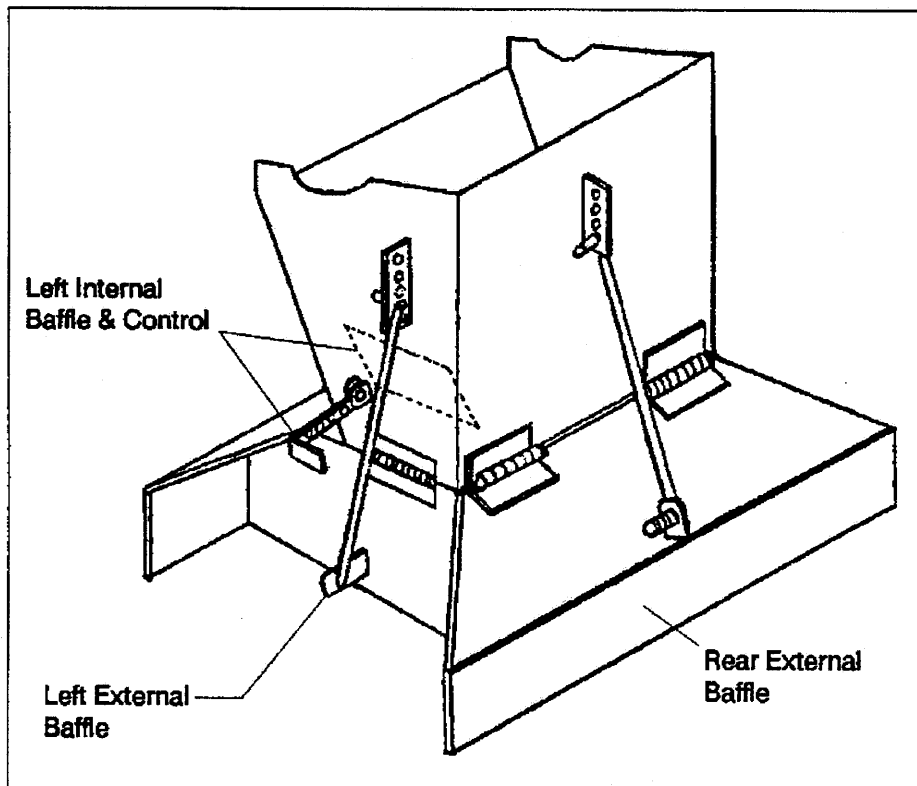
- The electric clutch can be engaged or disengaged at any time, and at any engine RPM. However, since engagement time and thus torque are almost instantaneous, it is recommended that the electric clutch be engaged at the lowest possible RPM without stopping the engine. This will prevent premature spinner chain failure and chain tension loss.
- **Always empty the spreader when it is not in use to help prevent a frozen conveyor chain.**
- If the Conveyor Chain becomes "stuck" or "frozen," remove the material from the hopper and free the chain, or move the spreader to a warm area to thaw the material.
- Do not attempt to free the chain by using a pipe wrench or any other tool on the output shaft of the gear case. The gear case is designed to accept torque from the input shaft only. Attempts to turn the output shaft will strip the gears and void any warranty.

## Baffle Adjustment

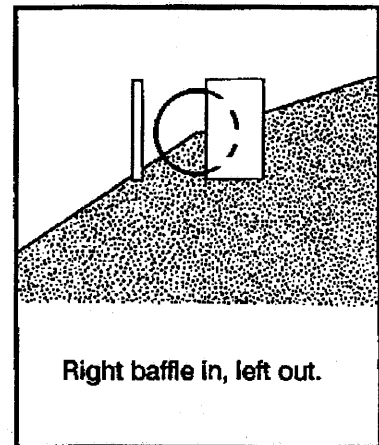
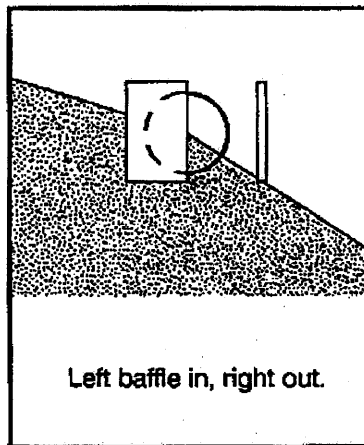
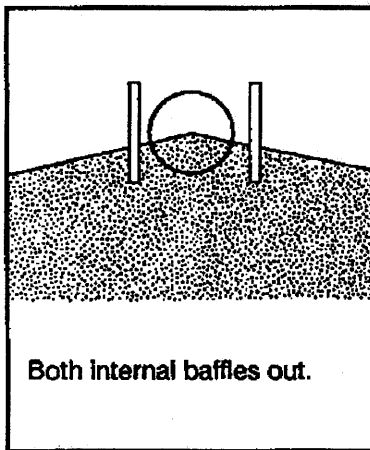
Spread pattern and the amount of material dispensed depends on engine RPM, gate position, and baffle settings.

- *Decreasing* RPM, and/or gate-opening, will *decrease* the amount of material coming to the spinner.
- *Increasing* RPM, and/or gate-opening, will *increase* the amount of material coming to the spinner.
- See the charts on page 9.

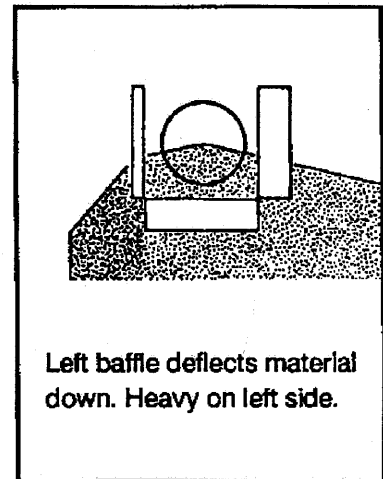
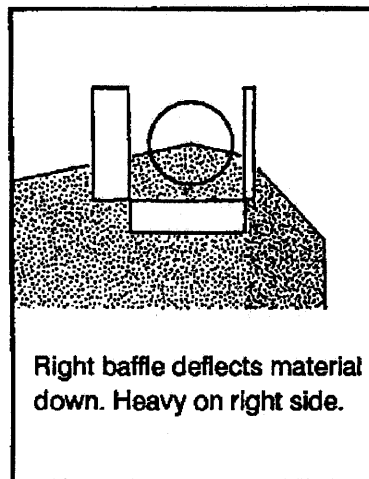
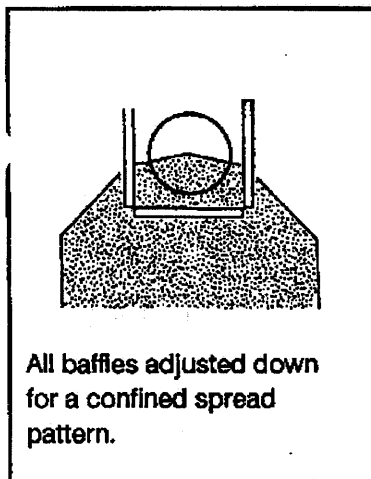
Internal and External Baffles



## Internal Baffle Adjustment



## External Baffle Adjustment

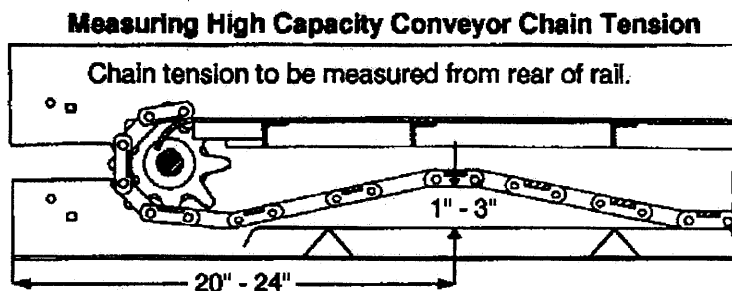


## MAINTENANCE

- Use dielectric grease on all electrical connections at the beginning and end of each season, and as required during the season.
- Grease the idler bearings on the Idler Shaft, flanged bearings on the Drive Shaft, and Spinner Shaft bearings every 10 hours of operation.
- Grease the input shaft bearing on the Gear Case every 50 hours of operation.

**NOTE:** Over-greasing may cause seal damage. The Gear Case must be filled to the oil level plug with SAE 90 gear-type lubricant. Keep the breather plug clean.

- Check the Conveyor Chain tension periodically by measuring in 20-24 inches from the end of the rails. Push up on the chain with your hand. The conveyor chain should lift 1-3 inches off the conveyor chain guide.



- Maintain engine to gear case roller chain tension, and sprocket alignment. Correct chain tension allows 5/16" deflection midway between the sprockets. Oil this chain often and at the end of each season.
- Maintain spinner shaft to gear case roller chain tension. Correct chain tension allows 5/16" deflection midway between the sprockets.  
To increase chain tension, loosen the bearing mounting hardware and pull the Spinner Shaft away from the Gear Case. Make sure the Spinner Shaft is vertical and the sprockets are in line before re-tightening the fasteners.  
Oil this chain often, and at the end of the season.

**NOTE:** Over-tightening the roller chains may damage the bearings on the Gear Case, the engine, and the Spinner Shaft. Over-tightening will also shorten the life of the roller chain and of the sprockets.

- Periodically check that the sprocket set screws are tight.
- Always empty the spreader when it is not in use to prevent a frozen conveyor chain.
- Wash out the spreader when it is not in use. At the end of the season, oil or paint all bare surfaces after washing and prior to storing the unit.
- To minimize problems and extend the life of the Electric Clutch, the following procedures are recommended:
  - At the end of each snow season, remove and clean the clutch.
  - After cleaning the clutch, coat both mating surfaces of the clutch with oil or light grease.
  - Remove oil and grease prior to using the clutch again.

### Engine Service and Repair

Maintain the spreader engine according to the engine owner's manual which is shipped with the spreader. Engine warranty is covered by Briggs & Stratton and is described in the back of the Briggs & Stratton engine owner's manual.

If service or repair is needed, contact an authorized Briggs & Stratton Service Center. To serve you promptly, the Service Center will need the model, type, and code number for your engine.

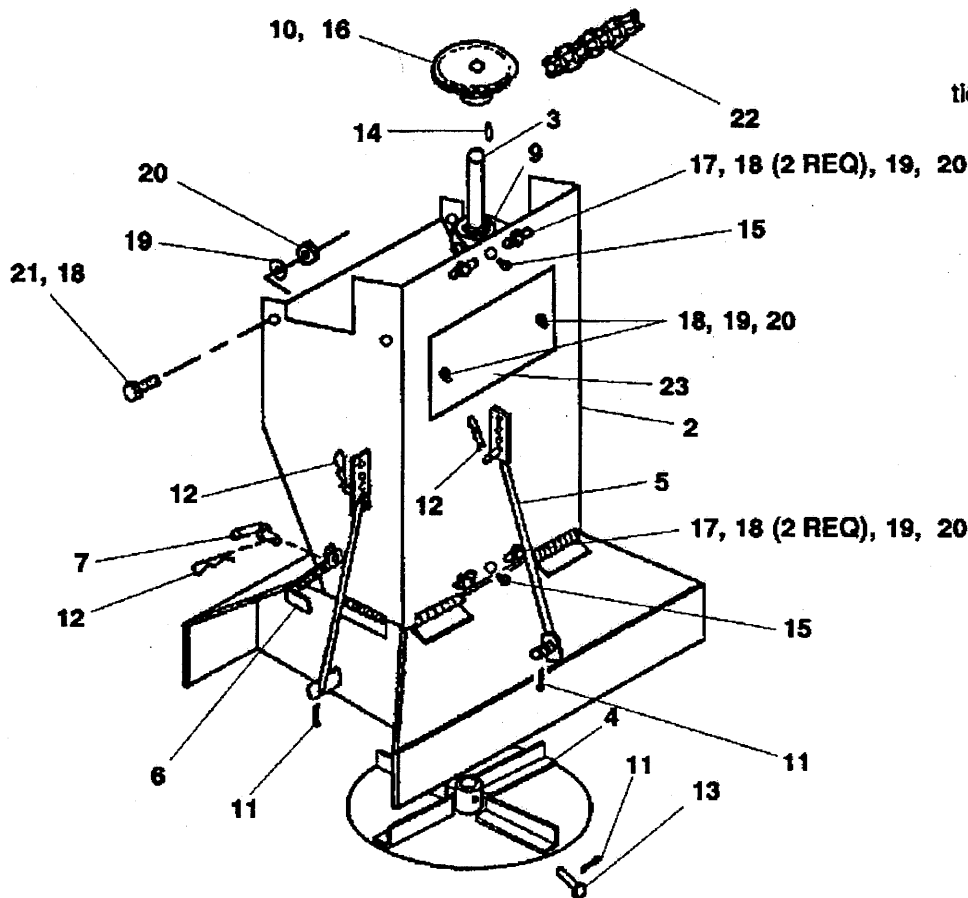
Your nearest service center is listed in the "Yellow Pages" under "Engines, Gasoline" or "Gasoline Engines."

# REPAIR PARTS

## Chute Assembly

Items with a single part number or description are common to both 19" and 31" Chute Assemblies.

See page 2 for descriptions of all abbreviations.



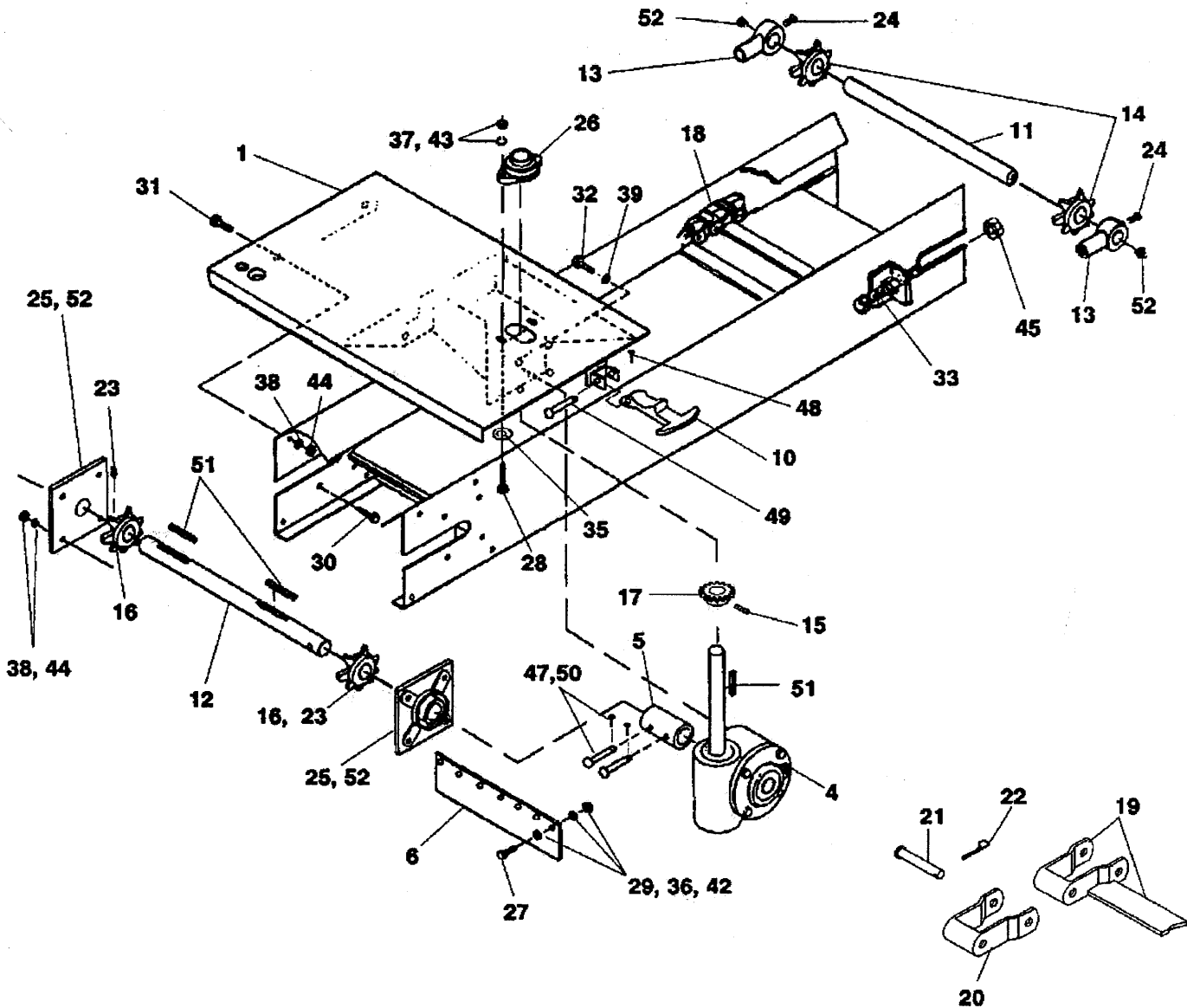
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| ITEM | PART No | QTY. | DESCRIPTION                   | ITEM | PART No | QTY. | DESCRIPTION                                  |
|------|---------|------|-------------------------------|------|---------|------|--|
| 1    | 65621   | 1    | CHUTE ASSY 19" (8100 SERIES)  | 14   | 65638   | 1    | KEY 1/4" SQ X 1" LG                          |
| 1    | 65622   | 1    | CHUTE ASSY 31" (8100 SERIES)  | 15   | 92117   | 2    | GREASE FITTING LINCOLN #5000                 |
| 2    | 65631   | 1    | CHUTE HOUSING 19"             | 16   | 90512   | 1    | 1/4-20X1/2 SO SS                             |
| 2    | 65632   | 1    | CHUTE HOUSING 31"             | 17   | 90061   | 4    | 3/8-16X1-1/2 HX CS G5 ZP                     |
| 3    | 65633   | 1    | SPINNER SHAFT (1"DIA X 27"LG) | 18   | 91103   | 10   | 3/8 PLAIN WASHER TY A STD ZP                 |
| 3    | 65634   | 1    | SPINNER SHAFT (1"DIA X 39"LG) | 19   | 91203   | 6    | 3/8 SP LK WASHER ZP                          |
| 4    | 65635   | 1    | SPINNER DISK (14.5" DIA)      | 20   | 91413   | 6    | 3/8-16 HX NUT ZP                             |
| 5    | 65199   | 3    | CONTROL ROD - 10"             | 23   | 65640   | 1    | ACCESS PANEL (31" CHUTE ASSY ONLY, PN 65622) |
| 6    | 65203   | 2    | GATE HANDLE                   | 18   | 91103   | 4    | 3/8 PLAIN WASHER TY A STD ZP                 |
| 7    | 65206   | 2    | ADJUSTMENT PIN                | 19   | 91203   | 4    | 3/8 SP LK WASHER ZP                          |
| 9    | 65636   | 2    | PILLOW BLOCK BEARING 1"       | 20   | 91413   | 4    | 3/8-16 HX NUT ZP                             |
| 10   | 65637   | 1    | SPROCKET 24T (1" BORE)        | 21   | 90038   | 4    | 3/8-16X3/4 HX CS                             |
| 11   | 91901   | 4    | 1/8X3/4 COTTER PIN            | 22   | 65639   | 1    | #40 CHAIN X 42" LONG                         |
| 12   | 91959   | 5    | 3/32X2-1/4 HAIRPIN COTTER ZP  | *    | 92980   | 1    | #40 ROLLER CHAIN MASTER LINK                 |
| 13   | 92997   | 1    | 1/4" X 2" CLEVIS PIN          |      |         |      |  |

\* Not shown.  
Indented parts are included in the assembly under which they are listed.  
Quantities shown are included with the assembly.

# REPAIR PARTS

## Conveyor Drive and Idler



**Note:** Assemble chain link (20) and pin (21) to chain bar (19) as shown.



# REPAIR PARTS

## Conveyor Drive and Idler

See page 2 for descriptions of all abbreviations.

### Parts List

| ITEM | PART No. | QTY. | DESCRIPTION                                      | ITEM | PART No. | QTY. | DESCRIPTION                   |
|------|----------|------|--|------|----------|------|-------------------------------|
| 1    | 65641    | 1    | ENGINE BASE (17" X 31.13")                       | 28   | 90022    | 2    | 5/16-18X1-1/2 HX CS G5 ZP     |
| 4    | 65178    | 1    | GEAR CASE, CONVEYOR 1.125"<br>(DURST)            | 29   | 91101    | 7    | 1/4 PLAIN WASHER TY A STD ZP  |
| 5    | 65177    | 1    | CPLG, DRAG SHAFT 1.125"<br>(DURST)               | 30   | 90061    | 8    | 3/8-16X1-1/2 HX CS G5 ZP      |
| 6    | 65642    | 1    | WIPER BELT                                       | 31   | 90039    | 4    | 3/8-16X1 HX CS G5 ZP          |
| 10   | 65224    | 2    | STRAP, RUBBER HOLD DOWN                          | 32   | 90098    | 4    | 1/2-13X1 HX CS G5 ZP          |
| 11   | 65643    | 1    | IDLER SHAFT (1.13"DIA X 20.5"L)                  | 33   | 65653    | 2    | 5/8-11X9 WELDMENT ZP          |
| 12   | 65644    | 1    | DRIVE SHAFT (1.13"DIA X 22"LG)                   | 35   | 91132    | 2    | 5/16 PLAIN WASHER TY A STD ZP |
| 13   | 65645    | 2    | ROD END (1-1/8" DIA HOLE)                        | 36   | 91201    | 7    | 1/4 SP LK WASHER ZP           |
| 14   | 65646    | 2    | IDLER SPROCKET 8TX1.13" ID                       | 37   | 91202    | 2    | 5/16 SP LK WASHER ZP          |
| 15   | 90521    | 1    | 5/16-18 X 3/8 SO SS                              | 38   | 91203    | 12   | 3/8 SP LK WASHER ZP           |
| 16   | 65647    | 2    | DRIVE SPROCKET 8TX1.13"ID                        | 39   | 91205    | 4    | 1/2 SP LK WASHER ZP           |
| 17   | 65181    | 1    | SPROCKET, 16TX1.0" ID                            | 42   | 91411    | 7    | 1/4-20 HX NUT ZP              |
| 18   | 65648    | 1    | CONVEYOR CHAIN (16"-124 LINK)<br>(8108 SPREADER) | 43   | 91412    | 2    | 5/16-18 HX NUT ZP             |
| 18   | 65650    | 1    | CONVEYOR CHAIN (16"-154 LINK)<br>(8110 SPREADER) | 44   | 91413    | 12   | 3/8-16 HX NUT ZP              |
| 19   | 65651    | A.R. | CHAIN BAR (16")                                  | 45   | 91416    | 2    | 5/8-11 HX NUT ZP              |
| 20   | 65184    | A.R. | LINK - CONVEYOR CHAIN                            | 47   | 91902    | 2    | 1/8X1 COTTER PIN              |
| 21   | 65186    | A.R. | PIN - CONVEYOR CHAIN                             | 48   | 91896    | 2    | 1/16X1/2 COTTER PIN ZP        |
| 22   | 91897    | A.R. | 3/32" X 1/2" COTTER PIN                          | 49   | 93000    | 2    | 3/16X1-1/4 CLEVIS PIN         |
| 23   | 90512    | 2    | 1/4-20 X 1/2 SO SS                               | 50   | 92998    | 2    | 3/8X2 CLEVIS SHEAR PIN        |
| 24   | 90804    | 2    | 5/16-18X3/4 SQ SS                                | 51   | 65174    | 3    | KEY, .25" SQ X1-1/2           |
| 25   | 65652    | 2    | FLANGE BEARING 1-1/8" X 4 BOLT                   | 52   | 92117    | 4    | GREASE FITTING LINCOLN #5000  |
| 26   | 65182    | 1    | 1" FLANGED BEARING                               | *    | 65301    | 4    | TIE-DOWN CHAIN                |
| 27   | 90002    | 7    | 1/4-20X3/4 HX CS G5 ZP                           | *    | 65306    | 4    | TIE-DOWN LINK                 |

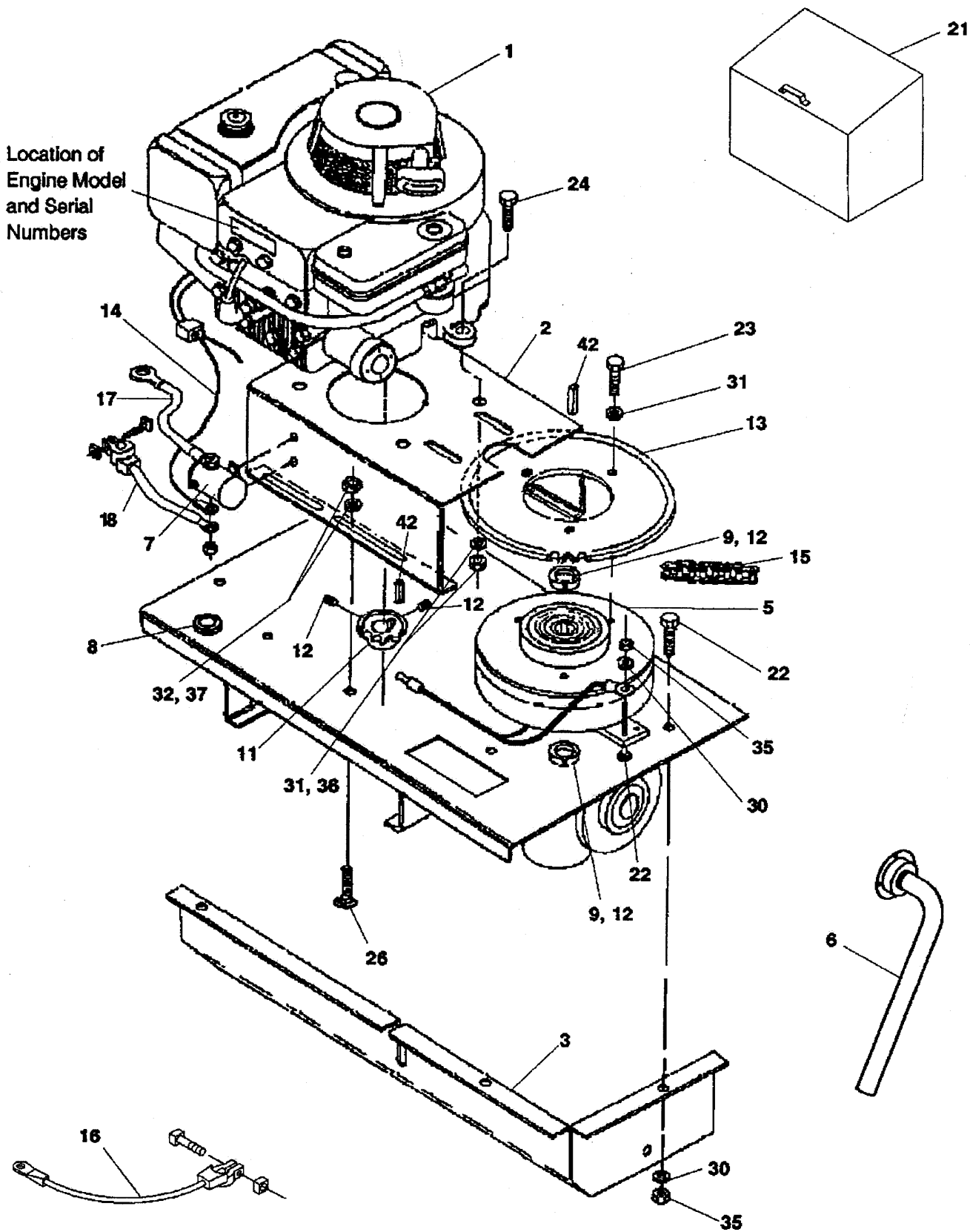
\* Not Shown

Indented parts are included in the assembly under which they are listed.  
Quantities shown are included with the assembly.

## REPAIR PARTS

### Engine Drive with Clutch

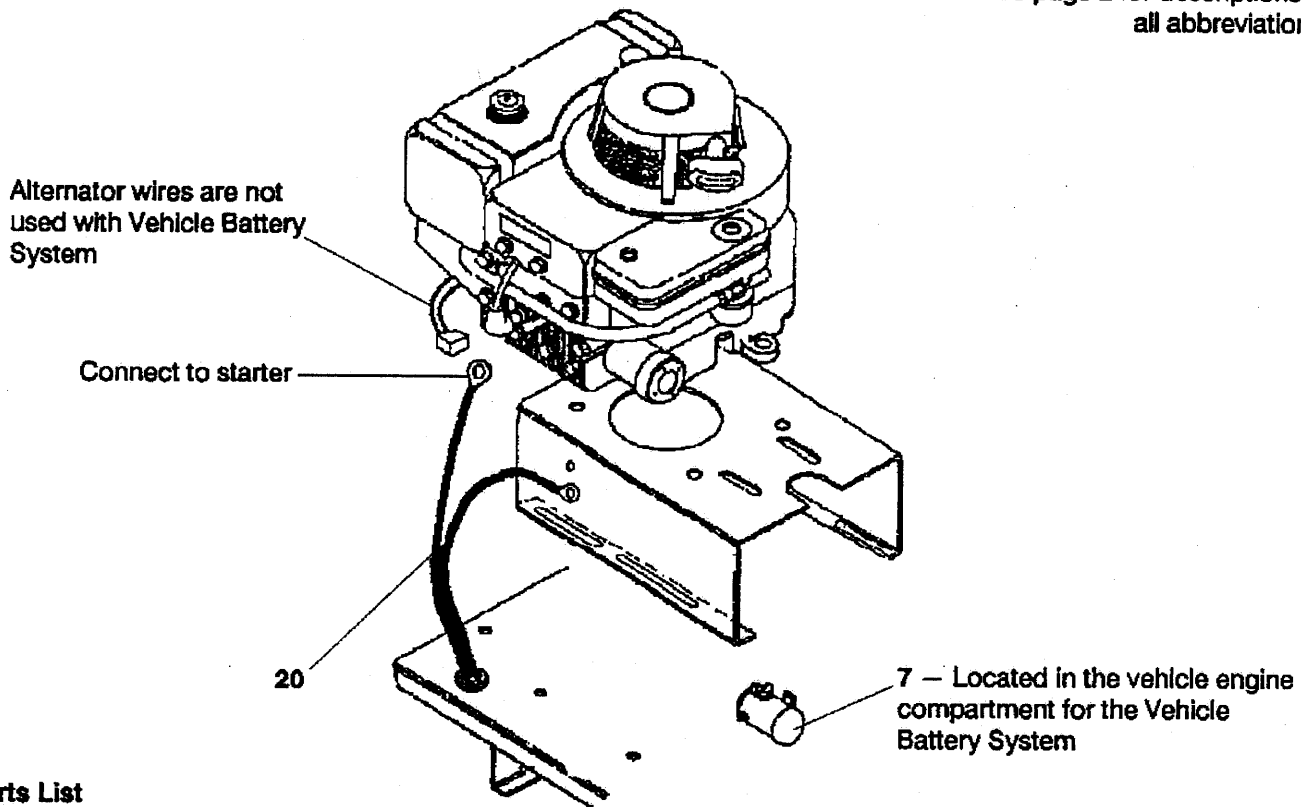
**Spreader Battery System shown.**



## REPAIR PARTS

**Engine Drive with Clutch**  
**Vehicle Battery System shown.**

See page 2 for descriptions of  
all abbreviations.



### Parts List

| ITEM | PART No  | QTY. | DESCRIPTION                 | ITEM | PART No  | QTY. | DESCRIPTION                  |
|------|----------|------|-----------------------------|------|----------|------|------------------------------|
| 1    | 65112    | 1    | 8.5 H.P. ENGINE             | *    | 22511*** | 1    | BATTERY CABLE 22"            |
| 2    | 65654    | 1    | ENGINE MOUNT (20" LONG)     | 21   | 65657    | 1    | ENGINE COVER (31.13" LONG)   |
| 3    | 65655    | 1    | CHAIN GUARD (26.63" LONG)   | 22   | 90002    | 4    | 1/4-20X3/4 HX CS G5 ZP       |
| *    | 65251**  | 1    | BATTERY CASE W/STRAP        | 23   | 90018    | 3    | 5/16-18X5/8 HX CS G5 ZP      |
| 5    | 65212    | 1    | ELEC CLUTCH                 | 24   | 90022    | 4    | 5/16-18X1-1/2 HX CS G5 ZP    |
| 6    | 65369    | 1    | TUBULAR EXHAUST EXTENSION   | 26   | 90201    | 4    | 3/8-16X1 CB G5 ZP            |
| 7    | 65357    | 1    | STARTER RELAY               | 30   | 91201    | 4    | 1/4 SP LK WASHER ZP          |
| 8    | 65216    | 1    | RUBBER GROMMET, 1"          | 31   | 91202    | 7    | 5/16 SP LK WASHER ZP         |
| 9    | 65211    | 2    | LOCKING COLLAR, 1"          | 32   | 91203    | 4    | 3/8 SP LK WASHER ZP          |
| 11   | 65214    | 1    | ENGINE SPKT, 12 T           | 35   | 91411    | 4    | 1/4-20 HX NUT ZP             |
| 12   | 90521    | 4    | 5/16-18 X 3/8 S0 SS         | 36   | 91412    | 4    | 5/16-18 HX NUT ZP            |
| 13   | 65209    | 1    | ELEC CLUTCH SPKT, 52 T      | 37   | 91413    | 4    | 3/8-16 HX NUT ZP             |
| 14   | 65380    | 1    | ALTERNATOR WIRE WITH PLUG   | 42   | 65174    | 2    | KEY, .25 SQ X 1-1/2" LG      |
| 15   | 65656    | 1    | #40 ROLLER CHAIN X 45" LONG | *    | 92980    | 1    | #40 ROLLER CHAIN MASTER LINK |
| 16   | 65249**  | 1    | BLACK BATTERY CABLE (NEG)   |      |          |      |                              |
| 17   | 65247**  | 1    | STARTER CABLE               |      |          |      |                              |
| 18   | 65246**  | 1    | RED BATTERY CABLE (POS)     |      |          |      |                              |
| *    | 65573*** | 1    | VEHICLE CABLE               |      |          |      |                              |
| 20   | 65574*** | 1    | SPREADER CABLE              |      |          |      |                              |

\* Not Shown.

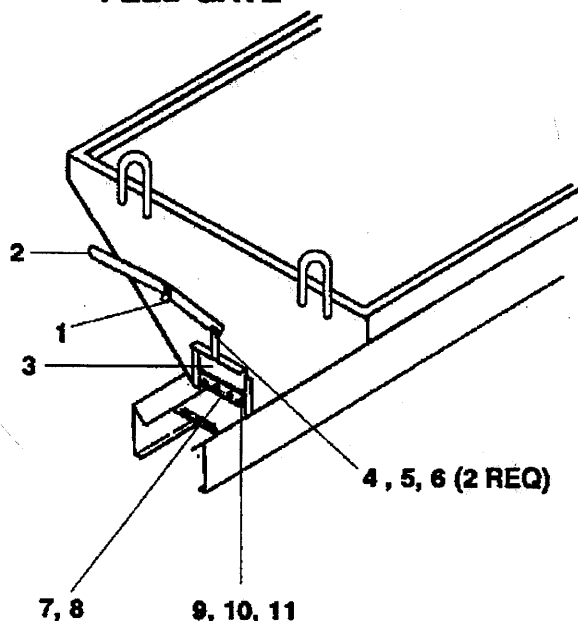
\*\* Spreader Battery System only.

\*\*\* Vehicle Battery System only.

## REPAIR PARTS

See page 2 for descriptions  
of all abbreviations.

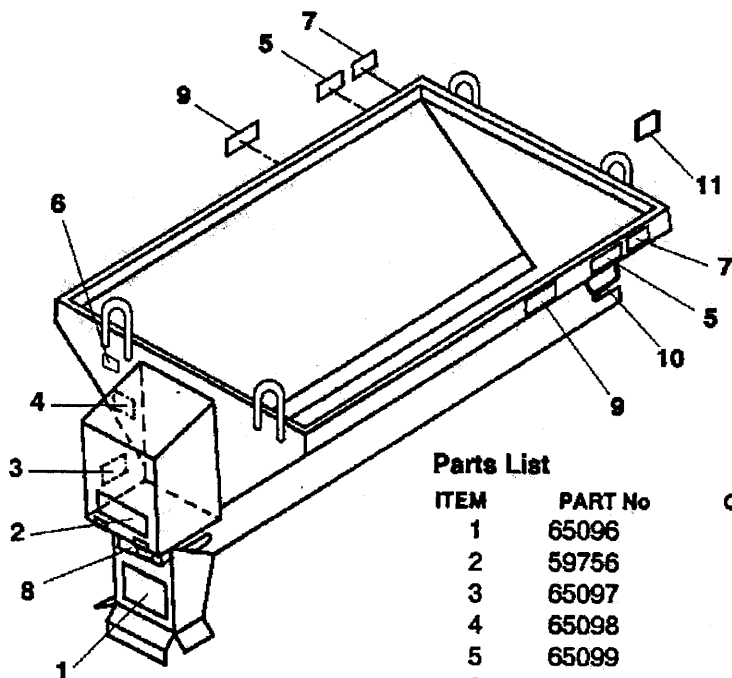
### FEED GATE



#### Parts List

| ITEM | PART No | QTY. | DESCRIPTION                  |
|------|---------|------|------------------------------|
| 1    | 65218   | 1    | WING NUT                     |
| 2    | 65659   | 1    | FEED GATE LEVER              |
| 3    | 65660   | 1    | FEED GATE                    |
| 4    | 90040   | 1    | 3/8-16X1-1/4 HX CS G5 ZP     |
| 5    | 91333   | 1    | 3/8-16 PT HX LK NUT NYIS ZP  |
| 6    | 91103   | 2    | 3/8 PLAIN WASHER TY A STD ZP |
| 7    | 65661   | 1    | RUBBER FEEDER BAR            |
| 8    | 65662   | 1    | FEEDER BAR RETAINER          |
| 9    | 90409   | 6    | 1/4-20X3/4 FL MS ZP          |
| 10   | 91411   | 6    | 1/4-20 HX NUT ZP             |
| 11   | 91201   | 6    | 1/4 SP LK WASHER ZP          |

### LABELS



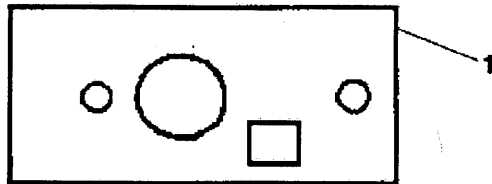
#### Parts List

| ITEM | PART No | QTY. | DESCRIPTION                                    |
|------|---------|------|--|
| 1    | 65096   | 1    | LABEL - WARNING - Flying Material              |
| 2    | 59756   | 1    | LABEL - IDENTITY - WESTERN®                    |
| 3    | 65097   | 1    | LABEL - WARNING - Fire Hazard                  |
| 4    | 65098   | 1    | LABEL - CAUTION - Read Instruction Manual      |
| 5    | 65099   | 2    | LABEL - CAUTION - Material to be Spread        |
| 6    |         | 1    | LABEL - SERIAL - Serial No.                    |
| 7    | 65095   | 2    | LABEL - WARNING - Stay Out of Box              |
| 8    | 65122   | 1    | LABEL - CAUTION - Guard is for Your Protection |
| 9    | 23769   | 2    | LABEL - IDENTITY - WESTERN® (Small)            |
| 10   | 65160   | 2    | LABEL - WARNING - Feed Chain                   |
| 11   | 65397   | 1    | LABEL - INFORMATION - Cab Control Wiring       |

**See page 2 for descriptions  
of all abbreviations.**

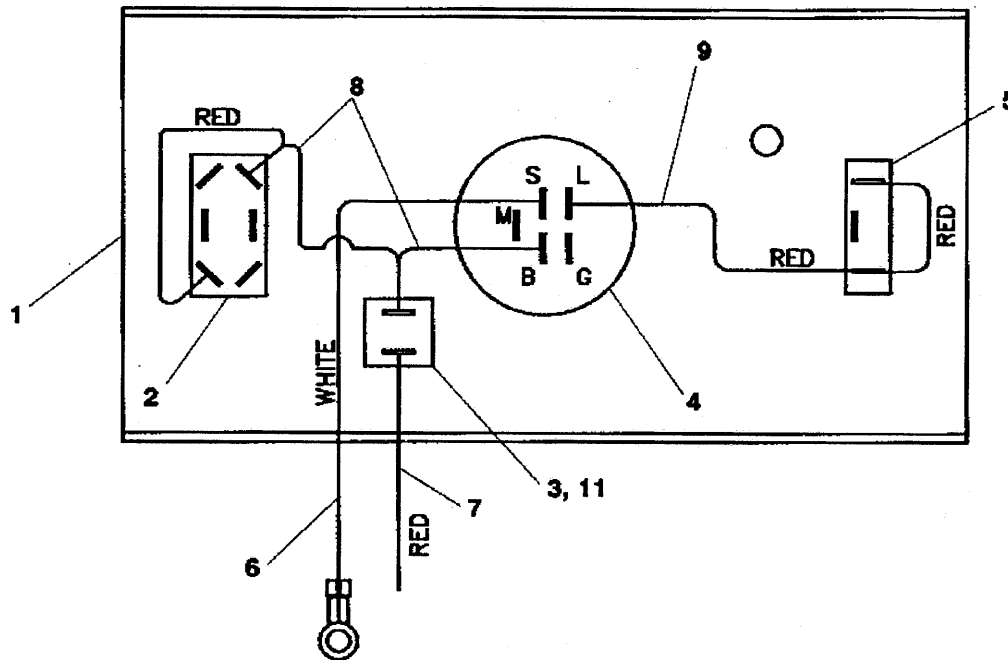
## Control Panel

### FRONT VIEW



## Electric Throttle

### BACK VIEW

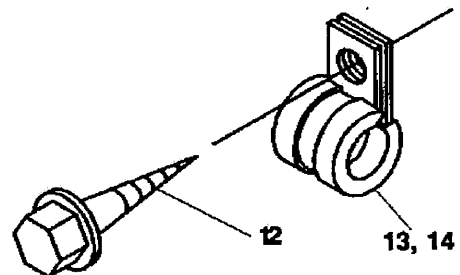


## Parts List

| ITEM | PART No | QTY. | DESCRIPTION   |
|------|---------|------|---|
| 1    | 65317   | 1    | CONTROL PANEL - ELECTRIC THROTTLE                   |
| 2    | 65354   | 1    | ELECTRIC THROTTLE SWITCH                            |
| 3    | 65313   | 1    | FUSE BLOCK  |
| 4    | 65367   | 1    | KEYED IGNITION SWITCH                               |
| 5    | 65353   | 1    | CLUTCH SWITCH                                       |
| 6    | 65384   | 1    | RELAY WIRE - WHITE (Vehicle Battery<br>System ONLY) |
| 7    | 65381   | 1    | POWER WIRE - RED                                    |
| 8    | 65382   | 1    | JUMPER WIRE - RED - 4 TERMINAL                      |
| 9    | 65383   | 1    | JUMPER WIRE - RED - 3 TERMINAL                      |
| 11   | 65366   | 1    | FUSE 3 AG - 10 AMP                                  |
| 12   | 93148   | 7    | 1/4X3/4 HX SDTS ZP                                  |
| 13   | 65340   | 6    | CLAMP LOOP #10                                      |
| 14   | 65190   | 7    | CLAMP LOOP #6                                       |
| *    | 66130   | 1    | 5/8 RUBBER GROMMET                                  |

\* Not shown.

## Clamp Loops

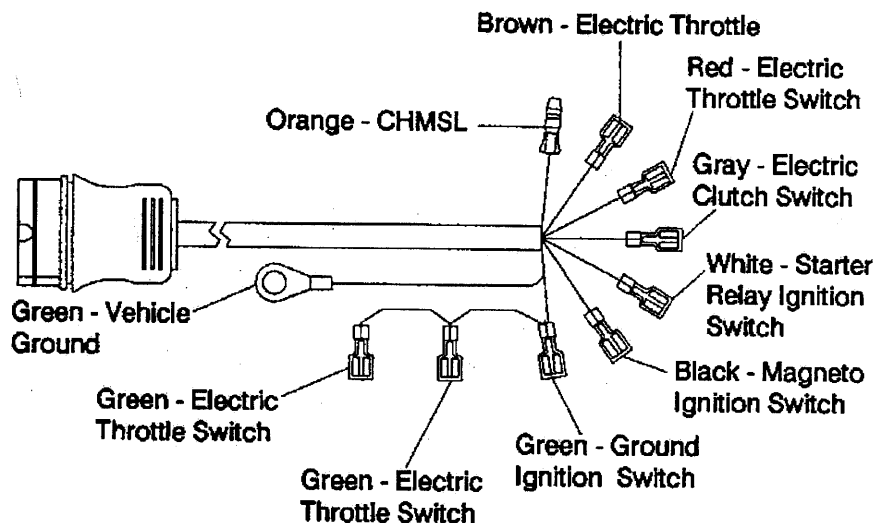
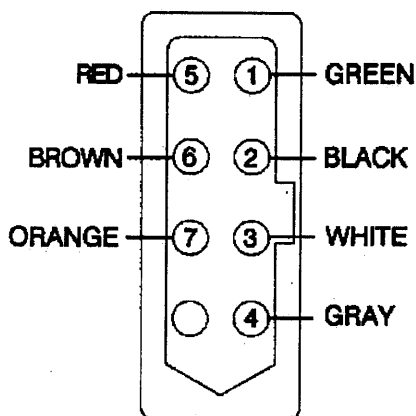


**Used to secure Spreader Harness and Spreader Cable to the spreader and the Cab Control.**

## REPAIR PARTS

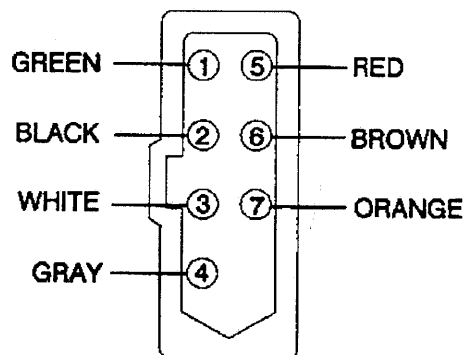
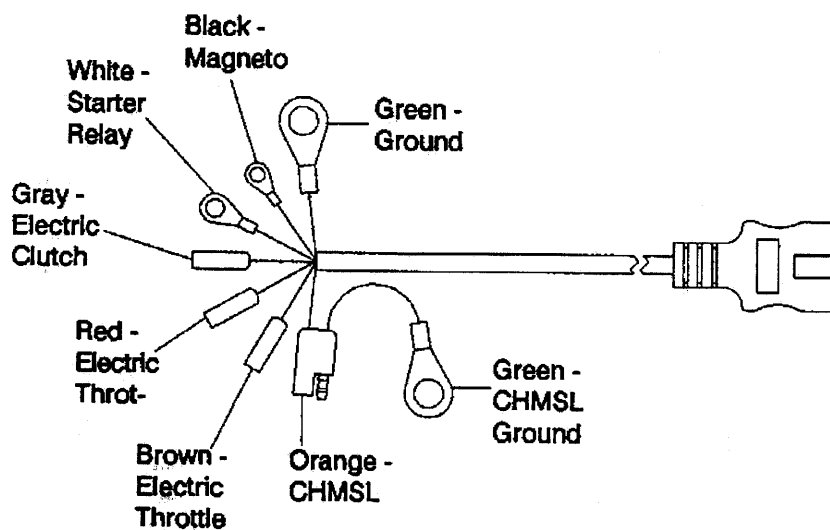
### Vehicle Harness

Part Number: 65571



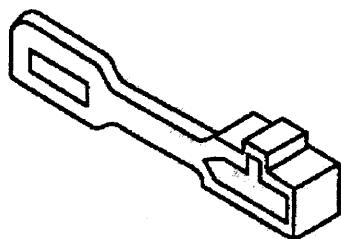
### Spreader Harness

Part Number: 65572



### Plug Cover

Part Number: 61548



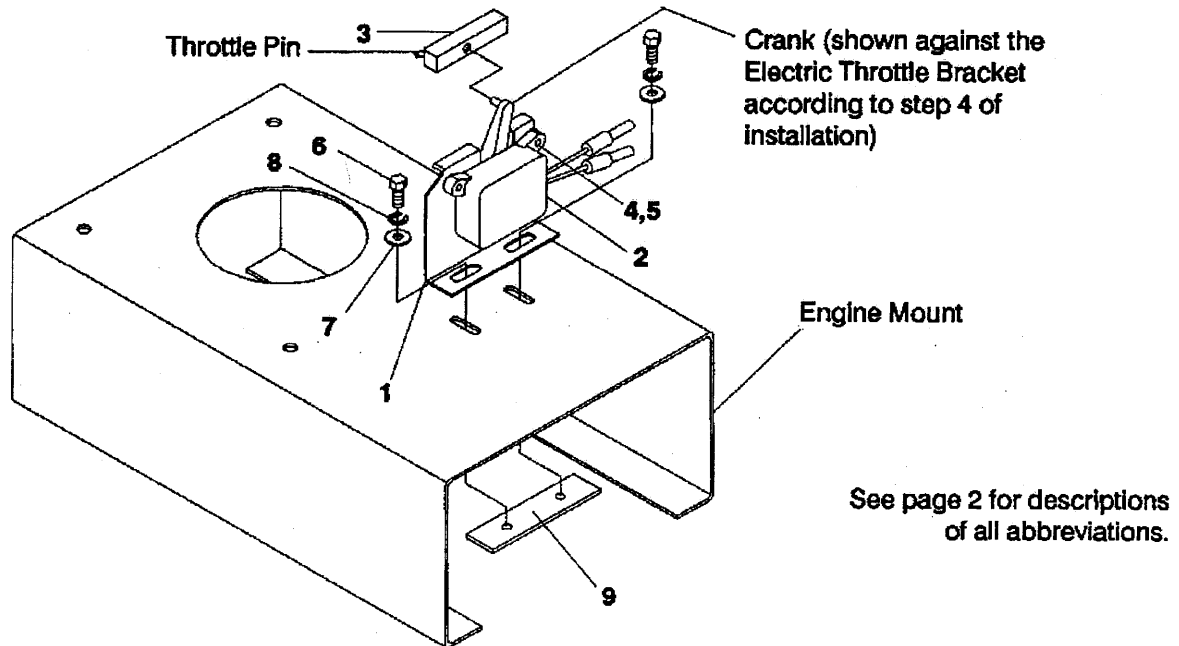
### Hook

Part Number: 62057



## REPAIR PARTS

### Electric Throttle Replacement



**NOTE:** Improper installation can result in damage to the engine choke/throttle linkage.

#### Parts List

| ITEM | PART No | QTY. | DESCRIPTION                   |
|------|---------|------|-------------------------------|
| 1    | 65372   | 1    | ELECTRIC THROTTLE BRACKET     |
| 2    | 65374   | 1    | ELECTRIC THROTTLE MOTOR       |
| 3    | 65375   | 1    | ELECTRIC THROTTLE ARM         |
| 4    | 90322   | 3    | 6-32X3/4 PN MS STS            |
| 5    | 91398   | 3    | 6-32 PT HX LK NUT NYIS STS    |
| 6    | 90002   | 2    | 1/4-20X3/4 HX CS G5 ZP        |
| 7    | 91101   | 2    | 1/4 PLAIN WASHER TY A STD ZP  |
| 8    | 91201   | 2    | 1/4 SP LK WASHER ZP           |
| 9    | 65672   | 1    | NUT BAR (1/4-20 ON 2"CENTERS) |

### Replacement Instructions

#### Removal

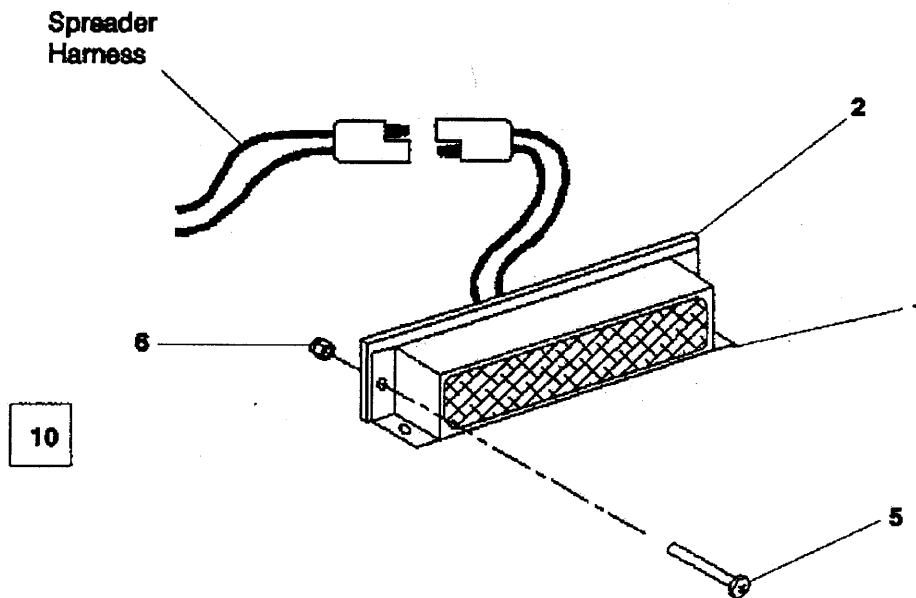
1. Carefully observe the existing installation. Mark the bracket position on the Engine Mount.
2. Disconnect the electric wires.
3. Remove 1/4-20 fasteners that hold the Electric Throttle Bracket to the Engine Mount.
4. Remove the 6-32 fasteners holding the Electric Throttle Motor to the bracket. Remove the motor.

#### Installation

1. Connect the electric wires matching colors, brown to brown, and red to red.
2. Using the Electric Throttle Control, run the new motor until the crank reaches the 12 o'clock position. A 9-volt battery can be a substitute for the control.
3. Fasten the Electric Throttle Motor to the bracket using the existing hardware.
4. Using the Electric Throttle Control, run the new Electric Throttle Motor until the crank is against the bracket as shown in the above diagram.
5. Place the Electric Throttle Arm on the crank as shown in the above diagram.
6. Place the Electric Throttle Assembly onto the Engine Mount inserting the Throttle Pin into the engine choke/throttle linkage plastic slider.
7. Loosely bolt the Electric Throttle Assembly to the engine mount with the existing hardware.
8. Keeping the Electric Throttle Arm parallel to and against the carburetor, move the Electric Throttle Bracket forward putting the engine throttle into the full choke position. Tighten the fasteners according to the Torque Chart on page 2.
9. Check that the crank is stopped in both directions by the bracket, not by the carburetor linkage.

# CENTER HIGH-MOUNTED STOP LAMP (CHMSL) KIT

See page 2 for descriptions  
of all abbreviations.



## Parts List

| ITEM | PART No | QTY. | DESCRIPTION                |
|------|---------|------|----------------------------|
| 10   | 65360   | 1    | COMPLETE STOP LAMP KIT     |
| 1    | . 65361 | 1    | LIGHT WITH GASKET          |
| 2    | . 65362 | 1    | MOUNTING GASKET            |
| *    | . 65363 | 1    | CHMSL HARNESS              |
| *    | . 65364 | 1    | PROTECTIVE PLUG            |
| 5    | . 90322 | 2    | 6-32 X3/4 PH PN MS STS     |
| 6    | . 91398 | 2    | 6-32 PT HX LK NUT NYIS STS |
| *    | . 59223 | 10   | TIE WRAP                   |
| *    | . 56099 | 1    | DIELECTRIC GREASE          |
| *    | . 49301 | 1    | BOX 3.5 X 3.5 X 13.5       |
| *    | . 55983 | 1    | BAG 4 X 4                  |
| *    | . 65365 | 1    | BAG ASSY                   |
| *    | . 13654 | 1    | INSTRUCTION MANUAL         |
| *    | . 61592 | 1    | BUTT SPLICE                |

Indented parts are included in the  
assembly under which they are listed.  
Quantities shown are included with  
the assembly.

\* Not shown

## INSTALLATION INSTRUCTIONS

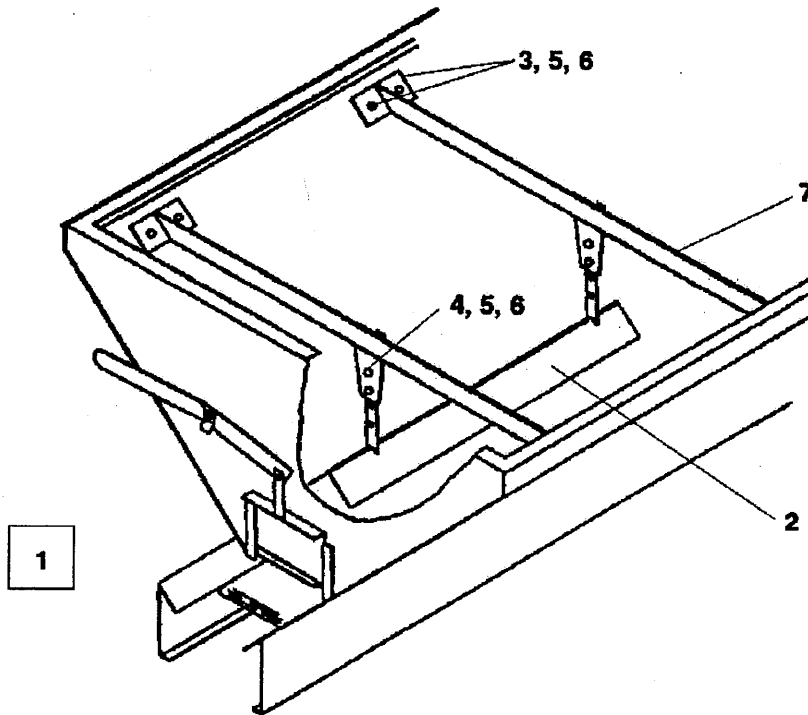
Use the CHMSL manual supplied with the kit for installation except when:

- The CHMSL Harness and the Protective Plug (supplied with the CHMSL kit) are NOT used. The CHMSL plugs into the SAE two-pin connector included as part of the Spreader Harness.
- The orange CHMSL feedwire from the Cab Control is connected to the Vehicle CHMSL Signal. See Cab Control and Wire Harness Installation.



## INVERTED VEE ASSEMBLY

See page 2 for descriptions  
of all abbreviations.



### Parts List

| ITEM | PART No | QTY. | DESCRIPTION                                    |
|------|---------|------|--|
| 1    | 65666   | 1    | INVERTED VEE KIT (8108 SPREADERS)              |
| 1    | 65668   | 1    | INVERTED VEE KIT (8110 SPREADERS)              |
| 2    | 65663   | 1    | INVERTED VEE WELDMENT (66" LG) (8108 SPREADER) |
| 2    | 65665   | 1    | INVERTED VEE WELDMENT (90" LG) (8110 SPREADER) |
| 3    | 90042   | 8    | 3/8-16X3/4 HX CS G5 ZP                         |
| 4    | 90039   | 4    | 3/8-16X1 HX CS G5 ZP                           |
| 5    | 91203   | 12   | 3/8 SP LK WASHER ZP                            |
| 6    | 91413   | 12   | 3/8-16 HX NUT ZP                               |
| 7    | 65327   | 2    | INVERTED VEE SUPPORT                           |

### Installation Instructions

1. Assemble the Inverted Vee to the Inverted Vee Supports with four 3/8" x 1" hex head cap screws, lock washers, and nuts.
2. Place the Inverted Vee/Inverted Vee Support Assembly into the spreader as shown on the above diagram. The end of the Inverted Vee should be 8-10" away from the Feed Gate, and the Inverted Vee Supports should be parallel to the top of the spreader.
3. Use the holes in the end plate of the Inverted Vee Support as a template and mark their location on the spreader. Verify that the spreader's side supports are not in the way of the holes to be drilled.
4. Using the holes in the end plates of the support as a guide, drill 7/16" holes through each side of the spreader. Fasten a 3/8" x 3/4" hex head cap screw, lock washer, and nut in each hole as it is drilled. This will hold the support in place as you drill your next hole.
5. Adjust the height of the Inverted Vee for the material being spread:
  - *Salt and dry sand:* adjust the vee as close to the bottom of the hopper as possible.
  - *Salt/sand mix:* adjust the vee to the middle mounting holes.
  - *Wet sand:* adjust the vee to the highest position.
6. Tighten all fasteners according to the Torque Chart on page 2.







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