

# Installation Instructions

## Self-Contained Hopper Spreader

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Note: This manual applies to spreaders equipped with Tecumseh Formula XL/C 10.0 HP. engine, serial number 2810 and above.

### GENERAL INFORMATION

#### Spreader Model Numbers:

- SCH096C** - 8' spreader w/ standard length spinner/chute, (carbon steel).
- SCH096SS** - 8' spreader w/ standard length spinner/chute, (stainless steel).
- SCH096CX** - 8' spreader w/ extended length spinner/chute, (carbon steel).
- SCH096SSX** - 8' spreader w/ extended length spinner/chute, (stainless steel).

#### Spreader Specifications:

- Overall Length: 113 inches
- Overall Width: 50-3/4 inches
- Overall Height: 32-1/2 inches
- Empty Weight (excludes accessories, fuel, and salt/sand):
  - Carbon Steel - 820 lbs.
  - Stainless Steel - 620 lbs.
- Capacity Struck: 1.8 cubic yards
- Capacity Rounded: 2.1 cubic yards

#### Vehicle Requirements:

3/4 or 1 ton pick-up truck above 8500# GVWR.

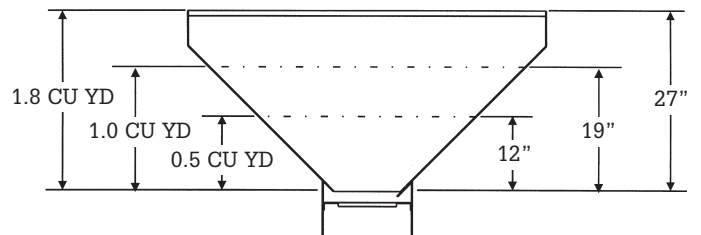
**CAUTION!** Do not overload vehicle beyond the vehicle GVWR or GAWR. Check the vehicle's load rating certification sticker for maximum vehicle capacity.

#### Average Material Weights:

MATERIAL	WEIGHT (POUNDS PER CUBIC YARD)
#1 Rock Salt	950
#2 Rock Salt	1,215
Coarse Sand - Dry	2,565
Coarse Sand - Wet	3,240

**Note:** To calculate the total spreader weight (including ice control material); add the empty spreader weight plus the ice control material and spreader accessories.

#### Hopper Storage Capacity



#### Recommended Fastener Torques:

Maintain all fastener torques as shown in the following table. Failure to do so may cause injury to persons.

	SAE GRADE 2 ft-lbs	SAE GRADE 5 ft-lbs
1/4-20	6	9
5/16-18	11	18
3/8-18	19	31
3/8-24	24	46
7/16-14	30	50
1/2-13	45	75
9/16-12	66	110
5/8-11	93	150

## Engine and Gearbox Oil:

The engine crankcase is filled with 1 quart of SAE 5W-30 motor oil at the factory. The gearbox is filled with SAE 90 gear lubricant at the factory.

**Warning!** Verify that the above oil viscosity meets your operating requirements. If not, empty and refill with the proper viscosity. Before starting spreader, check that the engine crankcase and gearbox are filled to the proper level with lubricant.

## SAFETY PRECAUTIONS

**Warning!** Observe the following Safety Precautions before, during and after operating this spreader. By following these precautions and common sense, possible injury to persons and potential damage to this machine may be avoided.

1. Read this entire Owners Manual before operating this spreader. This includes the Tecumseh Formula XL/C 10 hp. engine Operator's Manuals.
2. Read all safety decals on the spreader before operating.
3. Check to make sure all safety guards are securely mounted into place before operating this spreader.
4. Make sure the engine cover is securely fastened to the spreader before operating the spreader.
5. Verify that all personnel are clear of the spreader spray area before starting or operating this spreader.
6. Keep all loose clothing, hair, jewelry and limbs clear of the spreader before starting or operating this spreader.
7. Do not over-load your vehicle beyond payload limits. If there are any questions, contact the vehicle manufacturer.
8. Do not adjust, clean, oil or unclog material jams without first turning off the spreader, removing the engine spark plug connector.
9. Do not climb on or in the spreader during operation. Do not ride on the spreader while the vehicle is in motion.
10. Make sure the spreader is securely fastened to the vehicle in accordance with this manual.
11. Do not operate a spreader that is in need of maintenance or repairs.
12. Never lay tools or equipment on top of the 12 VDC spreader's battery. This could accidentally ground the positive (+) battery terminal, resulting in electrical shock, burns or damage to the vehicle or equipment.
13. Avoid contact with battery acid. Battery acid can seriously burn eyes or skin. Battery acid can also burn holes in clothing.
14. Always disconnect the battery before removing or replacing electrical components.
15. A charging battery gives off gases that can explode if touched by a spark or flame. Cover the top of the battery with electrically non-conductive material to keep sparks away from battery gases.
16. If the spreader must be operated with the spreader battery disconnected, insulate the positive (red) battery cable and red wire from the engine alternator with electrical tape.
17. Do not use side extensions on the T304 Stainless Steel spreader to increase salt storage capability. Using side extensions may damage hopper and cause injury to personnel.

## SCH096 SPREADER WARRANTY INFORMATION

This warranty replaces all previous warranties and no employee of this company is authorized to extend additional warranties, or agreements, or implications not explicitly covered herein.

Buyers Products Company warrants all parts of the product to be free from defects in material and workmanship for a period of one (1) year, excluding the Tecumseh gasoline engine, from the date of installation. Parts must be properly installed and used under normal conditions. Normal wear is excluded.

Any part which has been altered, including modifications, misuse, accident, or lack of maintenance will not be considered under this warranty.



The sole responsibility of Buyers Products Company under this warranty is limited to repairing or replacing any part(s) which are returned, prepaid, 30 days after such defect is discovered, and returned part(s) are found to be defective by Buyers Products Company.

Authorization from Buyers Products Company must be obtained before returning any part. The following information must accompany defective parts returned to Buyers Products Company: RMA #, spreader model, serial number, date installed, and distributor from whom purchased.

Buyers Products Company shall not be liable for damage arising out of failure of any unit to operate properly, or failure, or delay in work, or for any consequential damages. No charges for transportation or labor performed on any part will be allowed under this warranty.

The 10.0 HP gasoline engine is solely warranted through Tecumseh Products Company. All warranty claims are to be processed through Tecumseh Products Company. This information is explained in the Tecumseh Engine owner's manual.

Please photocopy and complete this information and mail it to the following address to validate this warranty:

**Buyers Products Company**  
9049 Tyler Blvd.  
Mentor, Ohio 44060.

Name: \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

Spreader Model: \_\_\_\_\_

Serial No.: \_\_\_\_\_

Installation Date: \_\_\_\_\_

Purchase From: \_\_\_\_\_

## INSTALLATION INSTRUCTIONS

### 1. Mounting the Spreader onto the Vehicle:

- A.** Remove the tailgate from the vehicle.
- B.** Lift the carbon steel spreader by means of the lifting loop that is welded to the hopper cross channel. Lift the stainless steel spreader by means of the square knock-out

in the rear-most (toward rear of the truck) hopper cross member.

**Warning! The lifting device must be adequately rated to lift a payload equal to or greater than the spreader weight. See page 2 for spreader weights.**

The lifting loop is placed at the approximate balance point of the spreader. Residual material, gasoline, oil, battery, top screen, or inverted vee assembly may affect this balance point.

**C.** Elevate the spreader off the vehicle with lumber. Place lumber under the side gussets of the spreader. This will help with removal of excess material that accumulates under the spreader.

**D.** Center the spreader on the vehicle with the ends of the sill extensions 14" to the rear of the nearest vertical obstruction (bumper, trailer hitch, etc). It is recommended that the Spinner/Chute Assembly be loosely attached to the hopper. This should be done to avoid any interference between the vehicle and the Spinner/Chute Assembly.

**E.** Bolt the spreader to the vehicle frame using the holes located in each of the four (4) side gussets. Use 1/2" SAE Grade 5 hardware as required by vehicle application.

**F.** In addition secure the spreader to the vehicle using the four (4) tie-down eyes located at each corner of the spreader to the vehicle's factory installed anchor points using proper tie-down devices.

**The spreader must be securely fastened to the frame of the vehicle.**

**Verify with the vehicle's manufacturer that the factory installed anchor points are designed for tie-down of such load.**

**Periodically check that the spreader mounting hardware is securely tightened.**

### 2. Mounting the Spinner/Chute Assembly

**A.** Attach the Spinner/Chute Assembly to the spreader using the four (4) 3/8-16 X 5/8" hex head bolts, lock washers, and nuts. The head of the bolt is to be placed on the inside of the chute assembly. Push the chute assembly towards the cab of the vehicle. Loosely attach the hardware, but do not tighten at this time.

**B.** Install the roller chain between the sprocket mounted to the Spinner/Chute Assembly and the Gearbox Sprocket. Make sure both sprockets are in-line with one another.

Tighten the Gearbox Sprocket set screw. Install the roller chain master link.

**C.** To adjust the roller chain tension, loosen the Spinner Shaft bearing bolts and slide the shaft away from the Gearbox Sprocket. Be sure to maintain the vertical alignment of the Spinner Shaft and Bearings before tightening the hardware. The correct chain tension should allow a 5/16" deflection midway between both chain sprockets.

**Caution! Do not over-tension the roller chain. This can cause damage to the chain, bearings, and gearbox.**

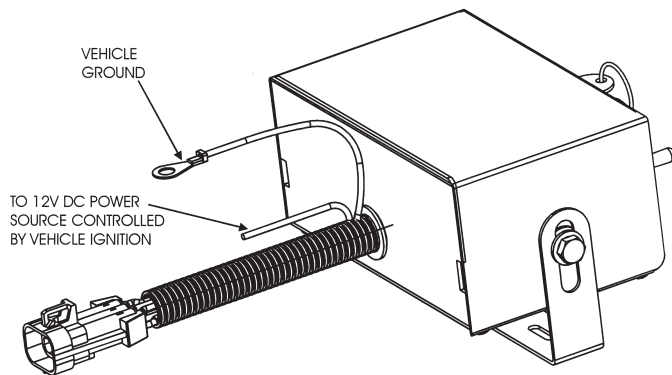
**D.** Install the chain guard using the three (3) 1/4-20 X 3/4" hex head bolts, lock washers, and nuts.

**E.** Tighten all hardware to the recommended torque specifications as shown in this manual.

### 3. Control Box and Vehicle Wiring Harness Installation.

**Note:** The following instructions show how to install the spreader so that the engine will draw power, to start the engine, from a dedicated battery located on the spreader

CAB CONTROL BOX



**A.** Layout a wiring path for the Vehicle Wiring Harness.

**Warning! Do not drill holes into fuel tanks, fuel lines, through electrical wiring, etc that may be damaged by drilling.**

**B.** Mount the Control Box in a convenient location in the truck cab.

**C.** Connect the green wire from the Vehicle Wiring Harness to a known vehicle ground.

**D.** Connect the stripped end of the red wire to an accessory wire/terminal that is controlled by the vehicle's ignition switch.

### 4. Spreader Wiring Installation

**A.** Attach the terminal end of the black (negative) battery cable to the negative terminal (marked "-") on the battery.

**B.** Then connect the terminal end of the red (positive) battery cable to the positive terminal (marked "+") on the battery.

**C.** Using cable straps and 1/4" x 3/4" sheet metal screws, secure the spreader wiring harness to the spreader. Predrilled holes are provided for securing the sheet metal screws.

**D.** Verify that the Ignition Switch in Control Box is in the "OFF" position prior to completing step E.

**E.** Connect the Spreader and Vehicle Wiring Harnesses.

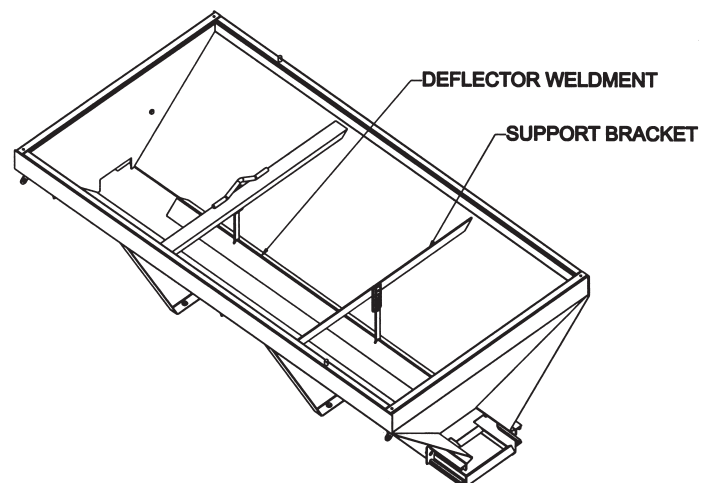
### 5. Installing the Inverted Vee Assembly (Optional Equipment)

#### Carbon Steel Unit:

Secure the Deflector Weldment (inverted vee) to the Support Weldments (Support Weldments are welded into the hopper) with four (4) 3/8-16 X 1" hex head cap screw, lock washers, and nuts.

#### Stainless Steel:

The front and rear hopper cross members have two (2) predrilled holes in each to support the Stainless Steel Deflector Weldment. Secure the deflector with four (4) 3/8-16 X 1" hex head cap screws, lock washers, and nuts.



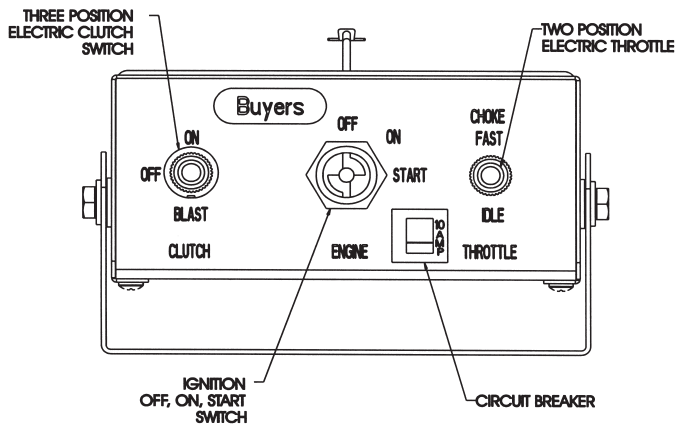
**A.** Adjust the height of the inverted vee for the material being spread:

- For salt and dry sand, adjust the Deflector Weldment as close to the bottom of the hopper as possible.
- For salt/sand mix, adjust the Deflector Weldment to the middle of the mounting holes.
- For wet sand, adjust the Deflector Weldment to the highest position.
- Tighten all hardware according to the Torque Chart.

## SPREADER OPERATION

**Note:** Before starting the engine, follow all safety precautions.

### 1. A word about the Cab Control Box Functions:



**A.** The **Clutch Switch** is a three position switch with the following functions:

“OFF” position: While in this position, with the engine running, the Spreader Feed Chain and the Spinner Disc will not spin. Therefore, the spreader will not spread ice control material.

“ON” position: While in this position, the Spreader Feed chain and the Spinner Disc will spin with the engine running.

“BLAST” position: While in this position, with the engine running, the Spreader Feed Chain and the Spinner Disc will spin. In this position switch can only be activated when held into the “BLAST” position.

**B.** The **Ignition Switch** is a three position switch with the following functions:

“OFF” position: While in this position, 12 VDC power is shut off to the spreader. To turn off the spreader, turn key to this position.

“ON” position: While in this position, 12 VDC power is turned on to the spreader.

“START” position: While in this position, the spreader’s engine starter is activated.

**C.** The **Throttle Switch** is a two position switch with the following functions:

“FAST” position: While in this position, the engine speed will increase.

“IDLE” position: While in this position, the engine speed will decrease.

### 2. Starting the Engine

**A.** Verify that the Clutch Switch and Ignition Switch on the Cab Control Box are in the “OFF” position.

**B.** Turn the vehicle ignition to the “ON” position.

**C.** Turn the Spreader Ignition Switch to the “ON” position.

**D.** Move the Throttle Switch on the Cab Control Box to the “Idle” Position and hold for approximately two seconds.

**E.** Turn the Ignition Switch to the “START” position.

**F.** While the engine is cranking, move the Throttle Switch to the “CHOKE/FAST” position.

**G.** Release the Throttle Switch when the engine begins to start.

**H.** Release the Ignition Switch when the engine starts.

**I.** After the engine starts, move the Throttle Switch to the “IDLE” position to release the choke (hold switch for 1/2-1 seconds).

### 3. Stopping the Engine

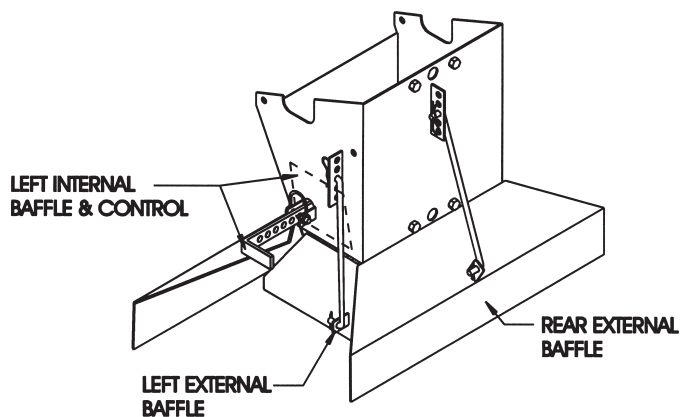
**A.** Reduce engine RPM by holding Throttle Switch to the “IDLE” position for 2-3 sec. To stop the engine, turn the Ignition key to the “OFF” position.

### 4. Clutch Operation

**A.** Start the engine and adjust the speed to slightly above idle.

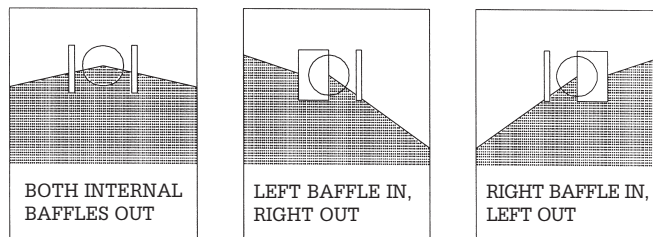
- B.** Move the Clutch Switch into the “ON” position.
- C.** Increase the engine RPM by moving the Throttle Switch.
- D.** It is recommended that the clutch only be engaged at the lowest possible speed without stopping the engine. This practice will prevent premature spinner chain failure and chain tension loss.
- E.** Do not constantly use “Blast” clutch regime. This practice will prevent premature clutch and flex coupler failure and breakage.

**5. Spinner/Chute Assembly Operation**

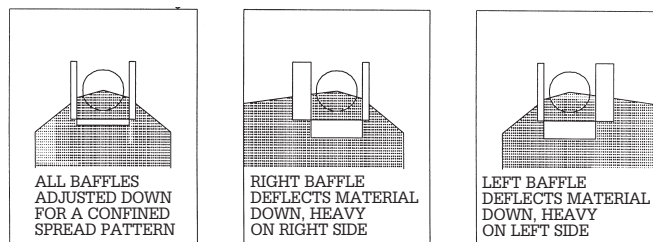


- A.** The spread pattern and the amount of material dispensed depends on the following:
  - Engine RPM.
  - Feed Gate position.
  - Baffle Settings.
- B.** Keep the following rules in mind:
  - Decreasing engine RPM will decrease the amount of material coming to the spinner.
  - Increasing engine RPM will increase the amount of material coming to the spinner.
  - Size of the Feed Gate opening will increase or decrease the amount of material coming to the spinner.

**Internal Baffle Adjustment**



**External Baffle Adjustment**



**6. Precautions**

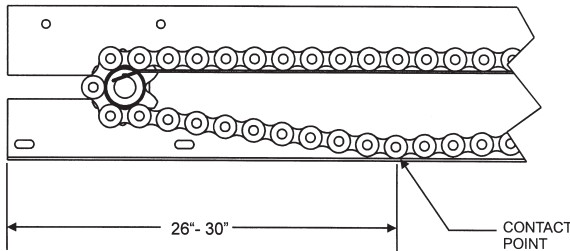
**Caution!** Always follow the following precautions so as not to cause damage to the spreader

- A.** If the feed chain does not move because of dense material or jams, remove all materials from the hopper and free the chain.
- B.** If the material in the hopper freezes, move the spreader into a warm area to thaw.
- C.** To prevent the feed chain from freezing, do not store material in the spreader.
- D.** The gearbox is designed to only accept torque from the input shaft. Therefore, **DO NOT ATTEMPT TO FREE THE FEED CHAIN BY USING A PIPE OR SIMILAR TOOL TO MOVE OR DISLodge THE CHAIN.** If the feed chain is moved, the gears within the gearbox will strip. This action will void all warranties.
- E.** Check and maintain the correct oil level for both the engine crankcase and the gearbox. The engine crankcase is filled with 1 quart of SAE 5W-30 motor oil at the factory. The gearbox is filled with SAE 90 gear lubricant at the factory.

**Warning!** The engine crankcase and gearbox must be filled and maintained with oil. The engine crankcase oil must be of the correct viscosity for the intended spreader operating conditions. Refer to the Tecumseh Engine owner manual to determine the correct viscosity. Operating the engine or gearbox without oil (or without a sufficient amount of oil) can cause permanent damage to the engine or crankcase.

## SPREADER MAINTENANCE

1. Use dielectric grease on all electrical connections before an electrical connection is made or after a connector is disconnected.
2. Grease the following:
  - Idler shaft bearings (2).
  - Drive shaft bearings (2).
  - Spinner shaft bearings (2).
  - Flanged bearing located between gearbox and clutch.
3. Check gearbox oil level periodically and maintain the oil level by adding appropriate lubricant.
4. Fill the engine crankcase with recommended oil to the full line. Read the Tecumseh Engine owners manual for the recommended oil viscosity for your operating conditions. Check the oil level periodically and maintain the oil level. Clean and lubricate engine's choke throttle linkage.
5. Check the Feed Chain tension periodically. Check the chain tension by measuring the distance between the end of the sill extensions and the point where the chain contacts the lower flange on the rail. The correct distance between these two points is 26" to 30". See the diagram below to clarify.



6. Maintain the correct tension on the following roller chains:
  - A. Engine to Gearbox Input Sprocket.
  - B. Spinner Shaft to Gearbox Input Sprocket.

The correct chain tension allows 5/16" deflection midway between respective sprockets. Oil both roller chains often, and at the end of each season.

To loosen or tighten Chain A, loosen the four (4) 3/8-16 X 1" carriage bolts that fasten the Motor Mount Weldment to the drive base and slide the Engine Mount Stand.

To loosen or tighten Chain B, loosen the Spinner Bearing Mounting hardware and slide the Spinner Shaft. Verify that

the Spinner Shaft is vertical after any adjustments.

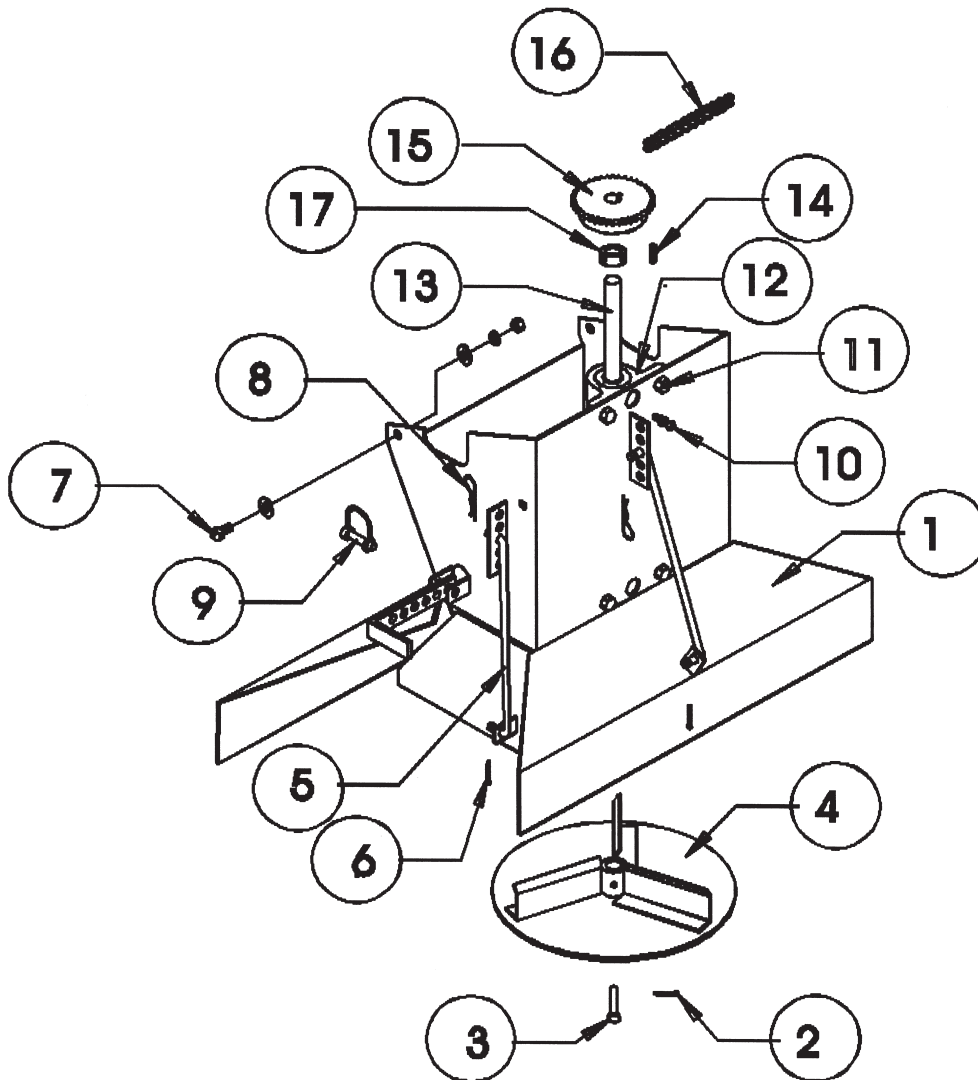
**Caution! Do not over-tension either roller chain. Over-tensioning can cause damage to bearings, roller chain, sprockets, or the engine.**

7. Empty the spreader of all ice control material when not in use to prevent a frozen feed chain.
8. Wash out the spreader when it is not in use. At the end of the season wash out the spreader to remove all ice control materials. Thoroughly dry all metal surfaces. Paint and oil all bare metal surfaces, to protect from rust. Properly store the spreader for the next season.
9. To minimize problems and extend the life of the Electric Clutch, the following procedures are recommended:
  - A. At the end of the season, remove and clean the clutch.
  - B. After cleaning, coat both mating surfaces of the clutch with oil or light grease.
  - C. Remove oil and grease prior to using the clutch again.
10. Engine Repair - Maintain the spreader engine according to the Engine Owner's Manual. This manual is shipped with the spreader. The engine warranty is covered by Tecumseh Products Co. If service is required, contact an authorized Tecumseh Service Center.

### Repair Parts - Spinner/Chute Assembly

ITEM	PART NO.	QTY.	DESCRIPTION
1	3001306	1	CHUTE HOUSING SUBASSEMBLY-STD CS
1	3001405	1	CHUTE HOUSING SUBASSEMBLY-EXT CS
1	3002114	1	CHUTE HOUSING SUBASSEMBLY STD SST
1	3002120	1	CHUTE HOUSING SUBASSEMBLY EXT SST
2	FPC007800075	1	COTTER PIN, 5/64 X 3/4
3	1420014	1	CLEVIS SHEAR PIN, 1/4 X 2-1/2
4	3004611	1	SPINNER DISC 11.5 DIA. POLY
5	1420015	3	CONTROL ROD
6	FPC013000100	1	COTTER PIN, 1/8 X 1
7		4	H. HEAD CAP SCREW 3/8-16 X 3/4 GR5
7		4	HEX NUT 3/8-16
7		4	3/8 FLATWASHER
7		4	3/8 LOCKWASHER
8	1420016	3	HAIRPIN COTTER, 3/32 X 2
9	1420018	2	LYNCH PIN, 3/8 X 1-3/4

ITEM	PART NO.	QTY.	DESCRIPTION
10		2	GREASE FITTING #400
11		4	H. HEAD CAP SCREW, 3/8-16 X 3/4, GR5
11		4	3/8 FLATWASHER
11		4	3/8 LOCKWASHER
12	1420101	2	PILLOW BLOCK BEARING, 3/4"
13	1420150	1	SPINNER SHAFT-STD
13	142X150	1	SPINNER SHAFT-EXT
14	KS301	1	KEY, 3/16" SQUARE X 1"
15	1420004	1	SPROCKET, 24 TOOTH W/ SET SCREW
16	1410711	1	ROLLER CHAIN, #40, W/ 80 LINKS
17	3002225	1	COLLAR, .75 DIA LOCK WITH TWO SET SCREWS, 3/16 KEYWAY
	141055K	1	KIT, STD LG, SHAFT, BEARING, SPROCKET, SPINNER DISK, & HDW
	141065K	1	KIT EXT LG, SHAFT, BEARING, SPROCKET, SPINNER DISK, & HDW

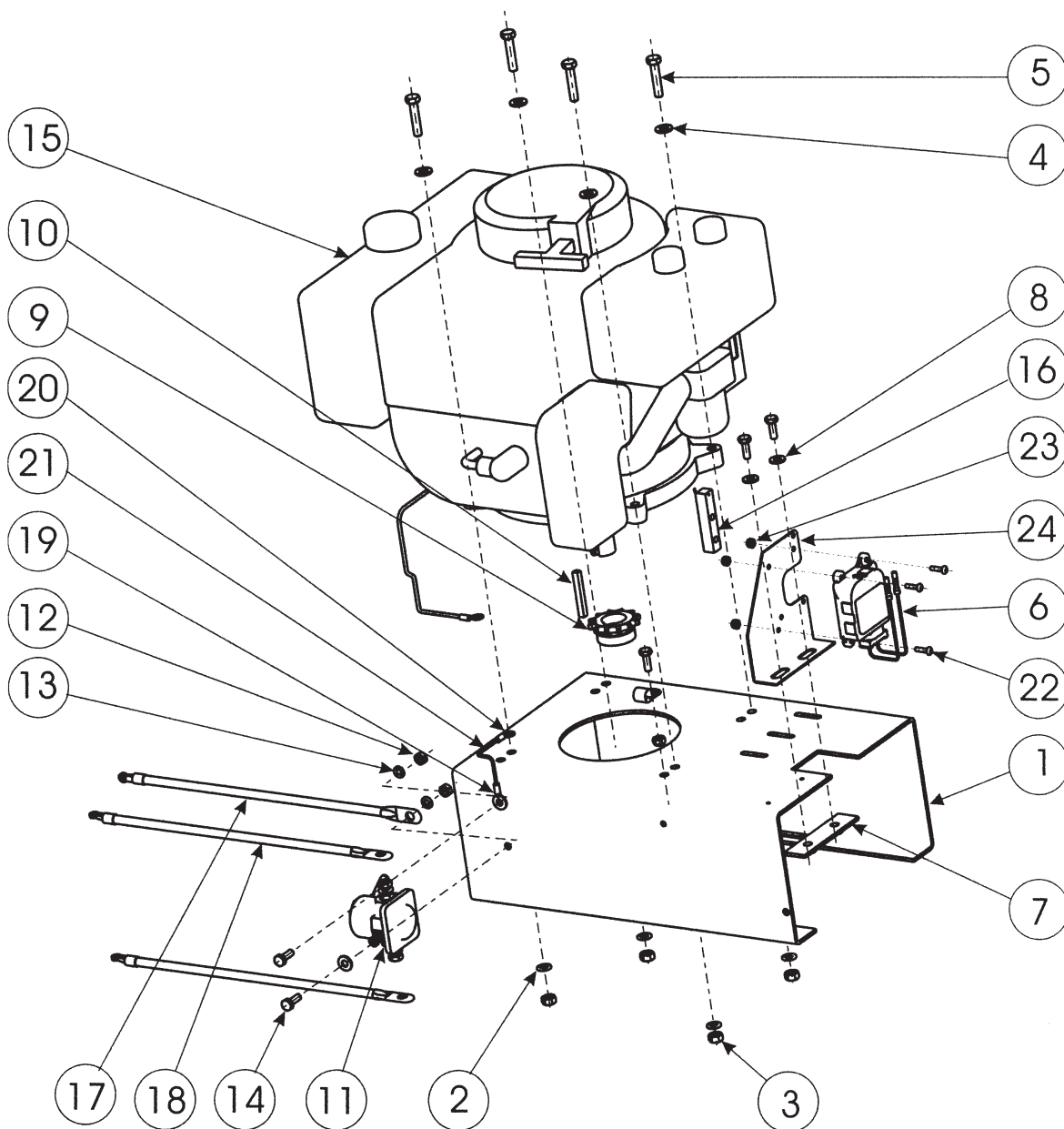




### Repair Parts - Engine Subassembly

ITEM	PART NO.	QTY.	DESCRIPTION
1	1411902	1	STAND, ENGINE MOUNT
2		4	WASHER, LOCK, 5/16"
3		4	NUT, 5/16 SAE
4		4	WASHER, FLAT, 5/16"
5		4	SCREW, HHC, 5-16-18X 1.5 GR5
6	1410709	1	THROTTLE MOTOR ASSEMBLY
7	1411911	1	RETAINER, THROTTLE MOTOR BRKT
8		2	WASHER, FLAT, 1/4 SAE
9	1411915	1	SPROCKET, ENGINE DRIVE
10	KS402	1	KEY, 1/4" X 2"
11	1306070	1	SOLENOID
12		2	NUT, HEX, 1/4-20
13		2	WASHER, LOCK, 1/4"
14		2	SCREW, HHC, 1/4-20 X 3/4" GR 5

ITEM	PART NO.	QTY.	DESCRIPTION
15	3005709	1	ENGINE, GAS 10 HP TECUMSEH
16	1411910	1	THROTTLE PIN ASSEMBLY
17	3001378	1	CABLE, BATTERY, 14" (BLACK)
18	3001379	2	CABLE, BATTERY, 14" (RED)
19	1401153	1	TERMINAL, 1/4" RING
20	1430033	2	TERMINAL, 5/16 RING
21			RED WIRE, 16 GA
22		3	SCREW, #8-32 X 5/8 MACHINE, PAN HD
23		3	NUT, #8-32 NYLOCK
24	1410714	1	BRACKET, THROTTLE CONTROL TECUMSEH 10 HP



## THROTTLE MOTOR ASSEMBLY INSTRUCTIONS

**Caution!** Improper installation of the Throttle Motor Assembly can result in damage to the engine choke/throttle linkage.

### Removal Instructions:

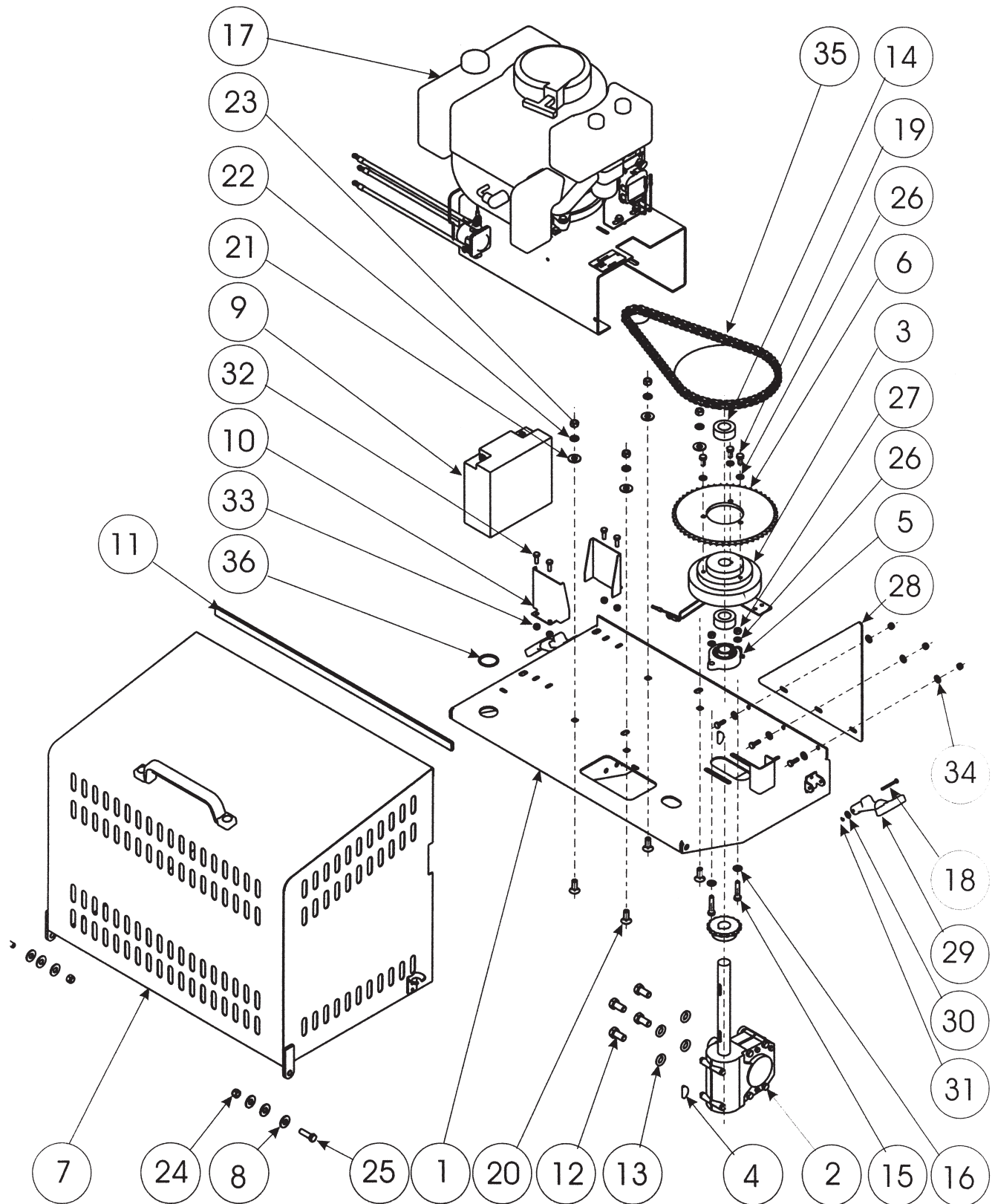
1. Carefully observe the existing installation and mark the position of the Throttle Control Bracket on the Engine Mount Stand.
2. Disconnect the wire connections.
3. Remove the 1/4-20 fasteners that hold the Throttle Control Bracket to the Engine Mount Stand. Remove the Throttle Motor Assembly.

### Installation Instructions:

1. Connect the electrical wiring. Only connect the brown wire to brown (white) wire and red wire to red (black) wire.
2. Fasten the new Throttle Motor to the Throttle Control Bracket using the existing hardware.
3. Run the new Throttle Motor until the crank is within opening of the Throttle Control Bracket.
4. Place the Throttle Pin Assembly on the crank of the Throttle Motor using hole in the end of plastic block.
5. Place the assembly onto the Engine Mount Stand by inserting the Throttle Pin into the engine choke/throttle linkage slider.
6. Keeping the Throttle Pin Assembly parallel to the engine choke/throttle linkage bolt the assembly to the Engine Mount Stand with the existing hardware.
7. Run Throttle Motor in both directions until the slider in choke/throttle linkage stops against choke/throttle linkage bracket. Adjust position of Throttle Bracket if necessary.

## Repair Parts - Drive Subassembly

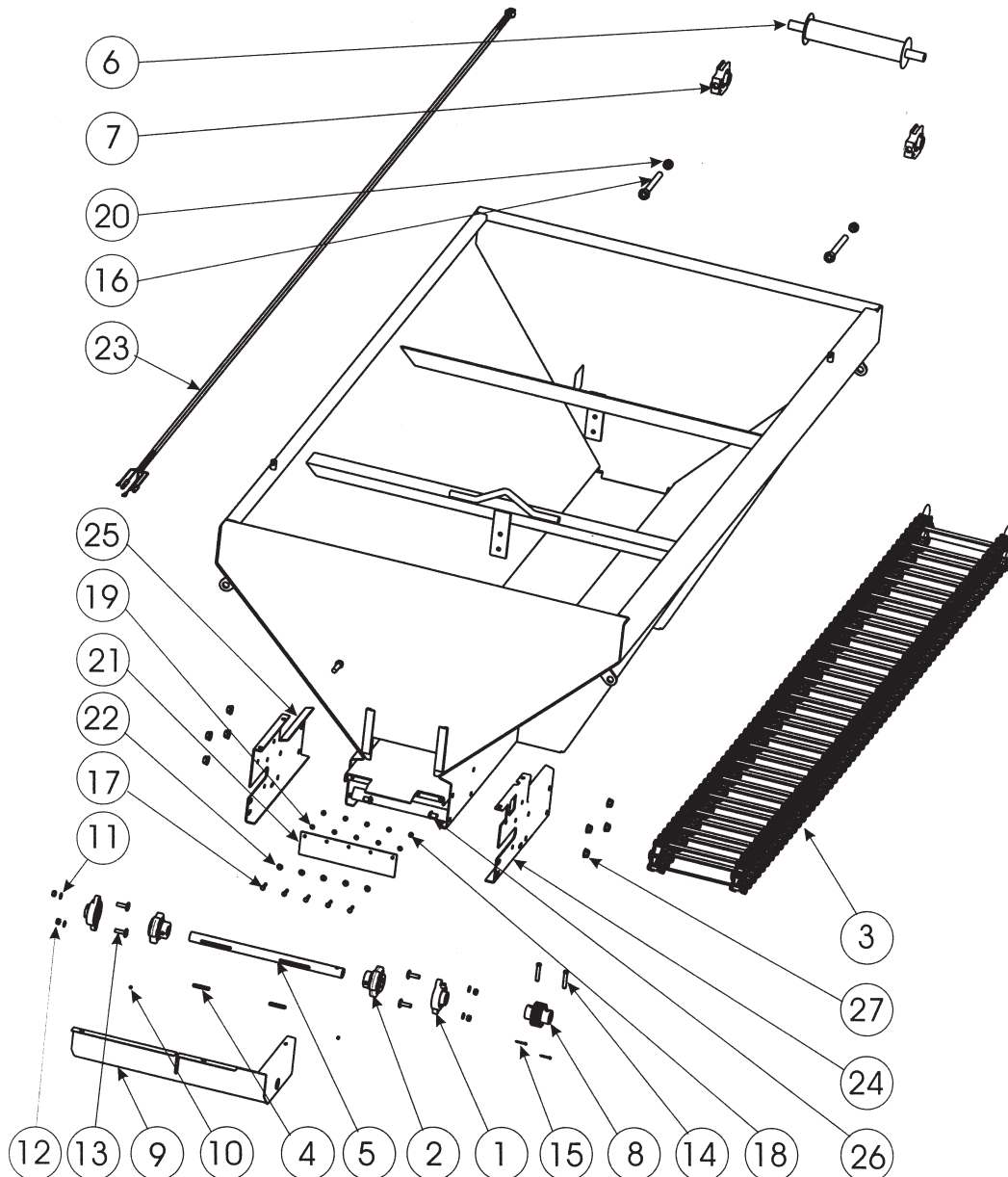
ITEM	PART NO.	QTY.	DESCRIPTION
1	3005788	1	ENGINE MOUNT WELDMENT CS
1	3005734	1	ENGINE MOUNT WELDMENT SST
2	141070K	1	GEARBOX ASSEMBLY
	1401200	1	GEARBOX, 20:1
	1410702	1	SPROCKET, 16 TOOTH
	K18N	1	KEY, WOODRUFF 1/4" x 1-1/8"
3	1401150	1	CLUTCH ASSEMBLY
4	K18N	1	KEY, WOODRUFF 1/4" x 1-1/8"
5	1411000	1	BEARING, 2-HOLE FLANGED, 1" ID
6	1411800	1	SPROCKET, CLUTCH, 52 TOOTH
7	3005828	1	ENGINE SHROUD WELDMENT CS
7	3005826	1	ENGINE SHROUD WELDMENT SST
8	3001361	2	WASHER, FLAT 3/8" ID NYLON
9	1410707	1	BATTERY, 12 VDC
10	3001363	2	BRACKET, BATTERY MOUNT
11	1410216		SPONGE RUBBER
12		4	SCREW, HHC 1/2-13 X 1 GR 5
13		4	WASHER, LOCK 1/2"
14	1411500	2	COLLAR, 1" ID
15		2	SCREW, HHC 5/16-18 X 1-1/2 GR 5
16		2	WASHER, FLAT 5/16 SAE
17	3005735	1	ENGINE ASSEMBLY, TECUMSEH 10 HP
18	3000283	2	PIN, PIVOT, 5/32 X 1-1/2"
19		3	SCREW, HHC 5/16 - 18 X 5/8"
20		4	BOLT, CARRIAGE 3/8-16 X 1"
21		6	WASHER, FLAT 3/8 USS
22		4	WASHER, LOCK 3/8"
23		4	NUT, HEX 3/8-16
24		2	NUT, HEX NYLOCK 3/8-16
25		2	SCREW, HHC 3/8-16 X 1-1/4" GR 5
26		5	WASHER, LOCK 5/16"
27		2	NUT, HEX 5/16-18
28	3001381	1	GUARD, ENGINE BASE CS
29	3000281	2	STRAP, RUBBER LATCH
30		2	WASHER, FLAT #8
31	3000285	2	E-RING, 5/32
32		7	SCREW, HHC 1/4-20 X 3/4 GR 5
33		7	NUT, NYLOCK 1/4-20
34		6	WASHER, FLAT 1/4" SAE
35	1412300	1	CHAIN, #40 ROLLER, 78 PITCHES
36	1413200	1	GROMMET, 1-1/2" RUBBER



### Repair Parts - Drive Subassembly

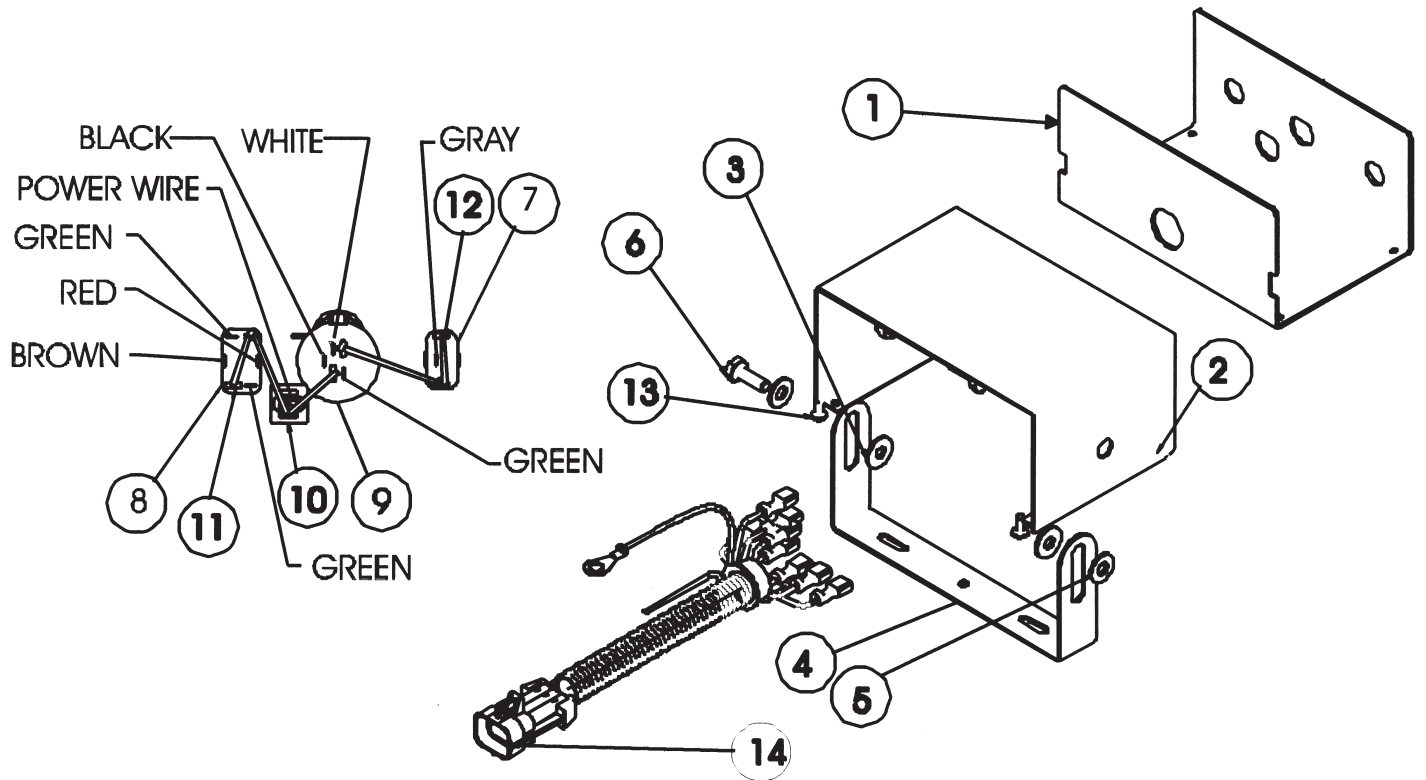
ITEM	PART NO.	QTY.	DESCRIPTION
1	1410200	2	BEARING, 2 HOLE FLANGED, 1-1/8" ID
2	1410250	2	DRIVE SPROCKET, CAST
3	1401100P	1	PINTLE CHAIN ASSEMBLY
4	KS402	2	KEY, 1/4" X 1/4" X 1-1/2"
5	1410712	1	DRIVE SHAFT
6	1410703	1	WELDMENT, IDLER TAKE-UP
7	1411001	2	BEARING, IDLER TAKE-UP
8	1410706	1	COUPLING
9	3002281	1	CHAIN GUARD CS
9	3002117	1	CHAIN GUARD SST
10		2	SET SCREW, 1/4-20 X 1/4"
11		4	WASHER, SPLIT LOCK, 3/8-16
12		4	NUT, 3/8-16 GR 5
13	1410305	4	SCREW- LEVELER, 3/8-16 X 1-1/4"
14	1410800	2	CLEVIS PIN, 3/8" X 2"
15	FPC013000100	2	COTTER PIN, 1/8" X 1"
16	141050W	2	WELDMENT, TAKE-UP BOLT

ITEM	PART NO.	QTY.	DESCRIPTION
17		5	SCREW, HHC, 1/4-20 X 1" GR 5
18		5	NUT, HEX 1/4-20 GR 5
19		5	WASHER, LOCK, 1/4"
20		2	NUT, HEX, 5/8-11 GR 5
21	1410241	1	WIPER BELT, HOPPER
22		5	WASHER, FLAT, 1/4"
23	1410708	1	WIRE HARNESS FOR HOPPER SPREADER
24	3002270B	1	SILL EXTENTION R.H. 96" HOPPER
	3002270SS	1	SILL EXTENTION R.H. SST
25	3002269B	1	SILL EXTENTION L.H. 96" HOPPER
	3002269SS	1	SILL EXTENTION L.H. SST
26		8	SCREW, BTN HD SOC CAP 1/2-13 X 3/4" ZN
		8	SCREW, BTN HD SOC CAP 1/2-13 X 1" SST
27		8	NUT, HX FLNG 1/2-13 ZN
		8	NUT, HX FLNG 1/2-13 SST



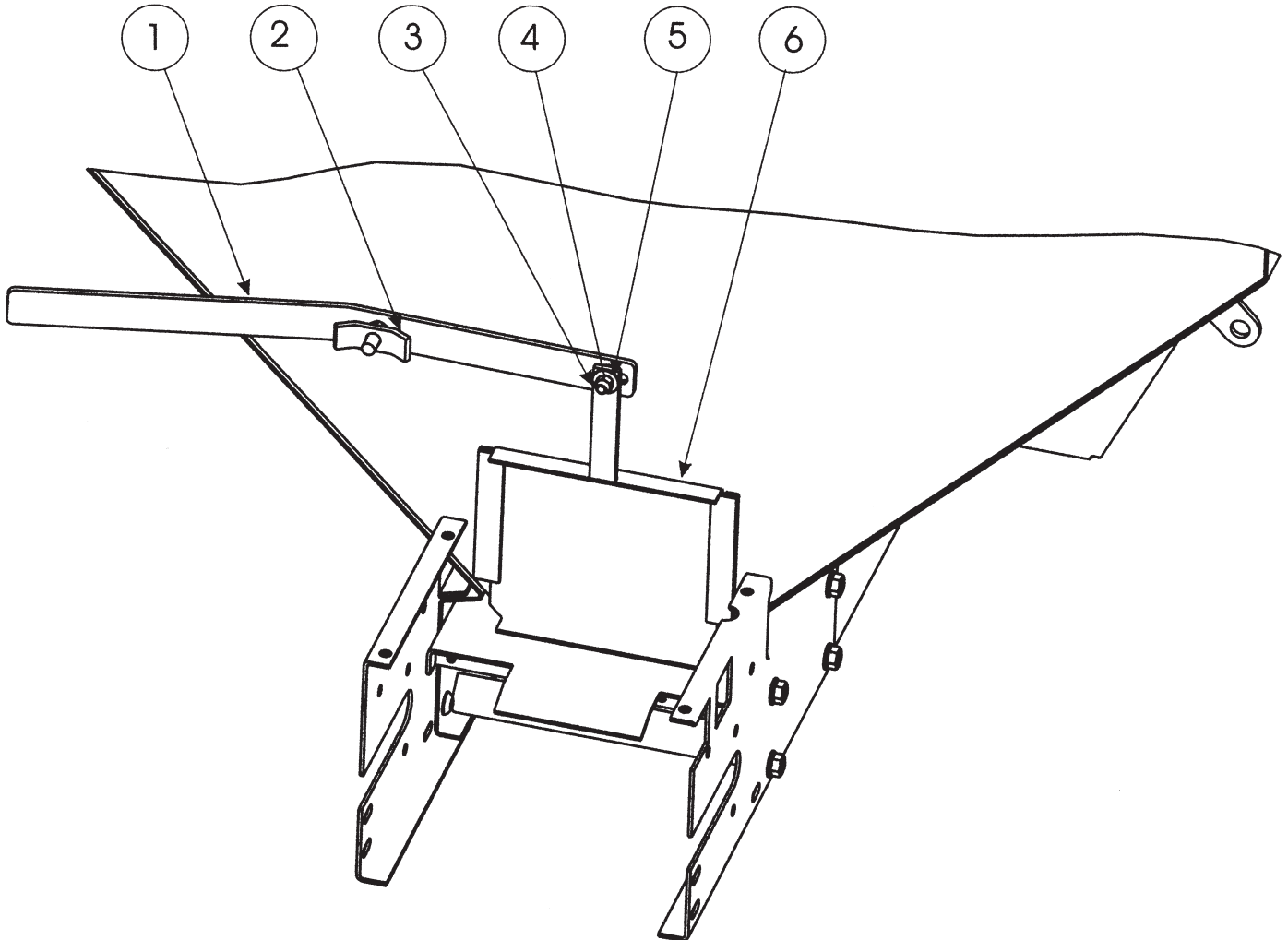
### Repair Parts - Cab Control Box Assembly

ITEM	PART NO.	QTY.	DESCRIPTION
	1410701		CAB CONTROL BOX
1	3002584	1	BOX BOTTOM
2	3002461	1	ASSEMBLY COVER
3		2	1/4" FLAT NYLON WASHER
4	3002457	1	BRACKET
5		2	1/4" FLAT WASHER
6		2	HEX HD CAP SCREW 1/4-20 X 1/2
7	1430027	1	CLUTCH SWITCH
8	1430028	1	THROTTLE SWITCH
9	1430032	1	IGNITION SWITCH
10	3002452	1	10 AMP CIRCUIT BREAKER
11	1430030	1	(4) TERMINAL JUMPER WIRE
12	1430031	1	(3) TERMINAL JUMPER WIRE
13		4	SCREW, 8-32 X 3/8 PAN HD PHILLIPS
14	3002533	1	CONTROL BOX WIRE HARNESS



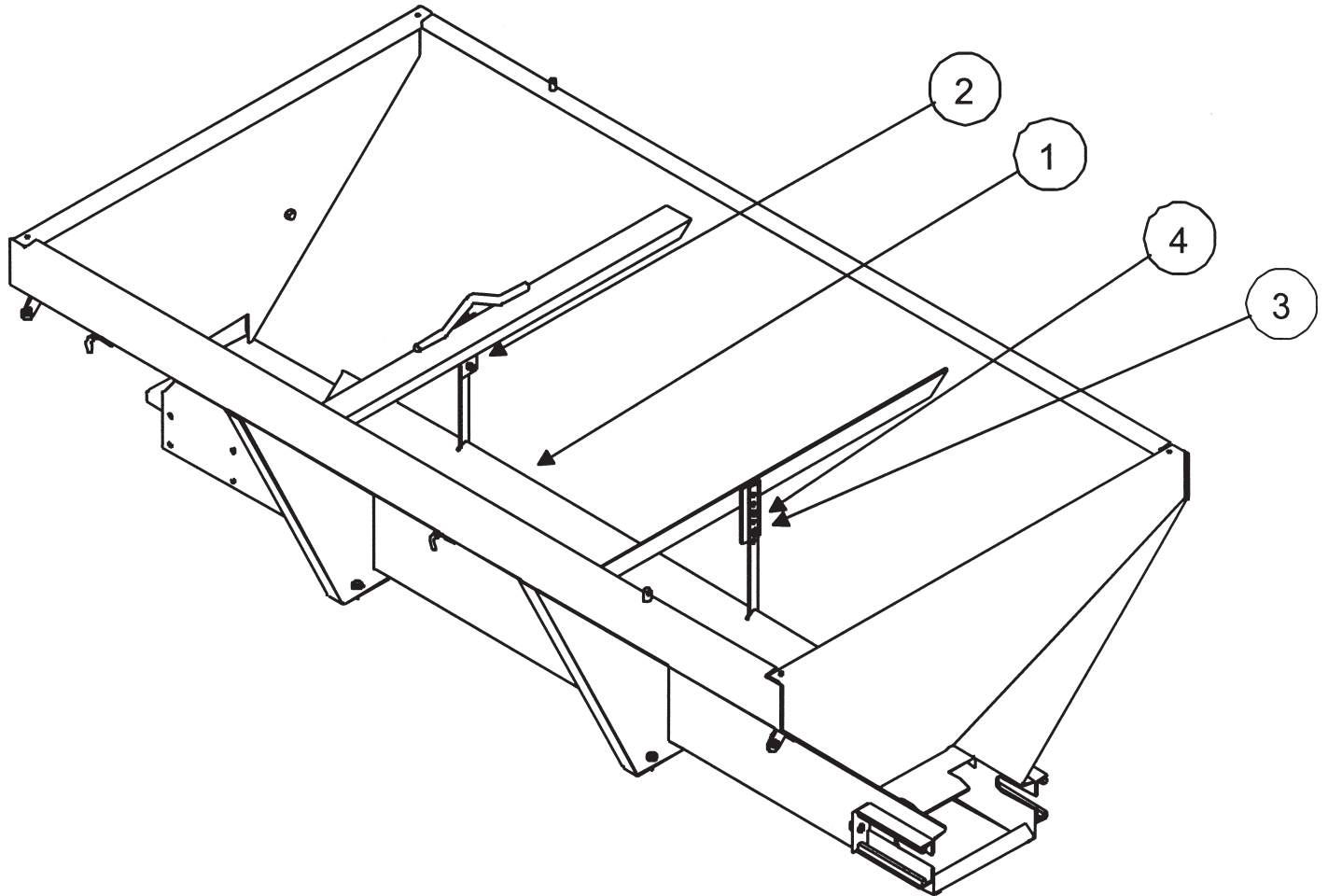
### Repair Parts - Feed Gate Assembly

ITEM	PART NO.	QTY.	DESCRIPTION
1	1410108	1	FEED GATE LEVER
1	1410108SS	1	FEED GATE LEVER, SS
2	1410109	1	LEVER NUT
2	1410109SS	1	LEVER NUT, SS
3		1	BOLT CARRIAGE 3/8-16 X 1-1/4" ZN
3		1	BOLT CARRIAGE 3/8-16 X 1-1/4" SST
4		2	3/8 FLAT WASHER ZN
4		2	3/8 FLAT WASHER SST
5		1	3/8-16 HEX LOCKNUT ZN
5		1	3/8-16 HEX LOCKNUT SST
6	141010W	1	FEED GATE PANEL WELDMENT
6	141010WSS	1	FEED GATE PANEL WELDMENT, SS



### Repair Parts - Feed Gate Assembly

ITEM	PART NO.	QTY.	DESCRIPTION
1	1499500	1	DEFLECTOR WELDMENT, CS
1	1499500SS	1	DEFLECTOR WELDMENT, SS
2		4	NUT, HEX 3/8-16 GR 5
3		4	SCREW, HHC, 3/8-16 X 1" GR 5
4		4	WASHER, SPLIT LOCK, 3/8"





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