

INSTALLATION and OPERATING INSTRUCTION MANUAL

V-BOX MATERIAL SPREADERS PV SERIES



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MAGNUMTM
SPREADERS

THE BEST SAFETY DEVICE IS A CAREFUL OPERATOR!

SAFETY ALERT SYMBOL



THIS SYMBOL MEANS **ATTENTION!**
BECOME ALERT!
YOUR SAFETY IS INVOLVED!

PLEASE READ AND UNDERSTAND COMPLETELY BEFORE DOING!

SAFE EQUIPMENT INSTALLERS and OPERATORS:



TURN OFF ALL POWER BEFORE PERFORMING ANY SERVICE OPERATIONS

- FOLLOW RECOMMENDED OPERATING PROCEDURES.
- KEEP EQUIPMENT IN SAFE OPERATING CONDITION AT ALL TIMES.





- RECOGNIZE AND AVOID HAZARDS WHILE OPERATING, SERVICING AND MAINTAINING EQUIPMENT.



CAUTION

1. KEEP ALL SHIELDS IN PLACE.
2. MAKE CERTAIN EVERYONE IS CLEAR BEFORE STARTING MACHINE OR MOVING VEHICLE.
3. KEEP HANDS, FEET, AND CLOTHING AWAY FROM ALL POWER DRIVEN PARTS.
4. DISENGAGE PTO, SHUT OFF HYDRAULIC VALVE, AND SET PARKING BRAKE BEFORE LEAVING OPERATORS POSITION. MAKE SURE ALL MOVEMENT HAS STOPPED BEFORE SERVICING, UNCLOGGING, OR CLEANING MACHINE.
5. USE FLASHING LIGHTS WHEN OPERATING MACHINE.
6. MAKE SURE MACHINE IS SOLIDLY SUPPORTED WHEN IT IS BEING MOUNTED, DISMOUNTED, OR STORED.



IF DEFACED - ORDER PART NO. 04049 045 00



DANGER

Stay clear while spinner is turning

IF DEFACED - ORDER PART NO. 04049 044 00



DANGER

Turn power off before servicing or cleaning

IF DEFACED - ORDER PART NO. 04049 182 00

NOTICE: INSTRUCTIONAL MATERIAL AND PARTS LISTS INCLUDED IN THIS MANUAL ARE SUBJECT TO CHANGE WITHOUT NOTICE.

INSTALLATION AND ASSEMBLY INSTRUCTIONS

INSTALLATION INSTRUCTIONS:

The 1.8 and 2.0 Series Spreaders can mount and store as a single unit and will mount on most medium, heavy-duty/pick-up trucks as well as 1 ton trucks

WARNING

THE SPREADER UNIT MUST BE SECURELY FASTENED TO THE VEHICLE. FAILURE TO NOT PROPERLY RESTRAIN THE UNIT COULD PERMIT THE UNIT TO BREAK FREE FROM THE TRUCK AND CREATE A POTENTIAL FOR A LIFE THREATENING ACCIDENT.

DO NOT OVERLOAD THE VEHICLE. It is quite possible to overload the vehicle by improperly mounting or over loading the spreader. This could result in dangerous stability and braking problems. Always consult and follow the truck manufacturer's instructions.

WARNING

BEFORE BEGINNING ANY INSTALLATION ON THIS UNIT, disconnect the spreader battery negative cable if already installed.

1. Place the Spreader in the rear of truck with the engine/hydraulic motor to the rear of the truck. Center the spreader (side to side) in the truck. The spreader should extend past the rear of the outer most part of the truck (i.e: truck bed, bumper) approximately 18 inches.

CAUTION

INSURE THAT THE SPREADER CANNOT TIP WHEN THE SPINNER ASSEMBLY IS ATTACHED

SPINNER ASSEMBLY

- a. Raise engine shroud and prop it open with the support rod. (If engine driven model)
 - b. Slide the spinner frame assembly into the rear of the longitudinal with the spinner back plate toward the rear.
 - c. Bolt the spinner to the longitudinals using the four (4) 3/8" x 1" bolts, 3/8" flange nuts and flatwashers from hardware bag located on the spinner. Using two (2) 3/8" x 1" bolts, flatwashers and flange nuts from hardware bag, bolt the top portion of the spinner back plate to the engine plate.
 - d. Install roller chain between the gear box sprocket and the spinner sprocket.
Make sure sprockets are in line with each other. The roller chain is tightened first by loosening all four (4) 3/8" bolts on the back plate; then pull the entire bearing/shaft assembly in such a way to achieve the proper amount of chain tension. Make sure the spinner shaft is straight up and down before re-tightening.
2. Reposition the spreader in the truck, just short of making contact with the rearmost part of the truckbed, bumper, pintle hook etc. Bolt the unit to the truck using a minimum of four (4) 1/2" - grade 5 bolts and corresponding washers and locknuts.

The spreader is designed to sit flat on the bed of the truck, supported by the longitudinals/sides.

DO NOT SUPPORT THE SPREADER BY THE BODY JACKS ALONE!! UNIT IS **NOT** DESIGNED FOR CHASSIS MOUNT APPLICATIONS!

OPTIONAL HOLD-DOWN KIT

Part No. (62562)

ITEM	PART NUMBER	QTY.	DESCRIPTION
1	62602	4	Ratchet/Strap
2	62807	4	Bolt, 1/2" Eye
3	20307	4	Locknut, 1/2-13 Esna ZP
4	62604	4	Nut, 1/2-13 Hex ZP
5	62605	8	Flatwasher, 3/4"

INSTALLATION INSTRUCTIONS

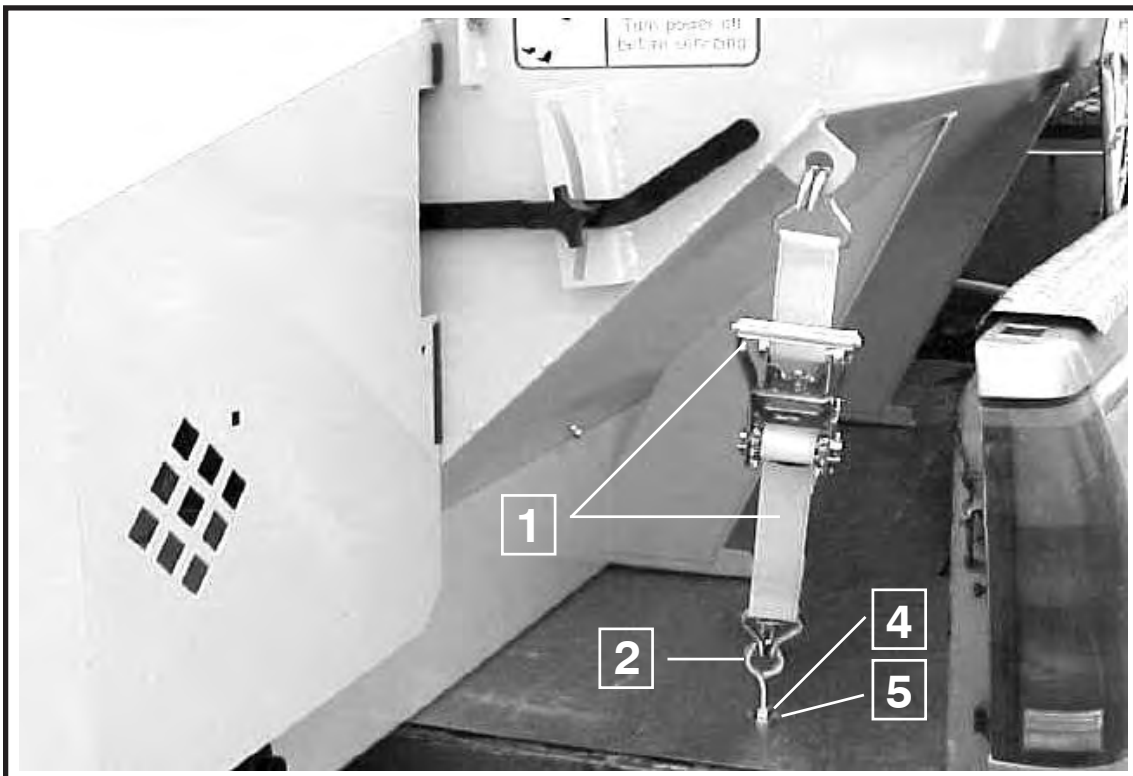


CAUTION

READ ALL THE INSTALLATION INSTRUCTIONS BEFORE STARTING

Before starting, verify that this mounting is acceptable to the vehicle manufacturer.

Attach the hold down at each corner of hopper as shown. Locate and drill four .531 (17/32") diameter holes for eye-bolts in the truck bed (position may vary from that shown). Straps must be positioned at opposing angles so that spreader cannot slide forward or rearward. Mount eye-bolts as shown, with locknuts and flatwashers on the bottom side. Assemble ratchet/strap to eye-bolts. Tighten hold downs evenly. Do not over tighten damage will result to the spreader or the truck.



INSTALLATION INSTRUCTION FOR ELECTRIC THROTTLE CONTROLS (FACTORY INSTALLED ACTUATORS)



WARNING

BEFORE BEGINNING ANY INSTALLATION ON THIS UNIT, disconnect the spreader battery negative cable if already installed.

PREPARING UNIT:

1. Spreaders with factory installed throttle controls do not require installer hook-up to the engine. The actuator has been installed and tested at the factory.
2. Raise the engine shroud and securely prop it in place with the prop rod. The installer will have to remove the ties securing the coiled actuator cable to the top of the engine.
3. The throttle actuator cable plugs into the in-cab control panel after being routed from the cab of the vehicle to the rear of the mounted spreader.
4. Select a suitable location in the cab of the vehicle to mount the throttle control box.



WARNING

Consult vehicle manufacturer for acceptable mounting locations. Improperly mounting the control box could interfere with air bag(s) and the other functions of the occupant protection systems, such as knee bolsters!

5. After the location of the control panel is determined, the cable must be routed to the front of the spreader, Route cable under the cab and up to the front of the spreader securing as needed. Allow enough cable for the control panel to be mounted in the cab.
6. The routed cable must be clear of all moving or hot parts on the spreader or vehicle. Secure the cable with the ties provided. Excess cable must be coiled up and secured. Apply dielectric grease on connecting Conductor Cables for protection from salt spreading environment.
7. Mount the control panel (with screws supplied).
8. For permanent cable mount at rear of the truck, a mounting bracket is supplied.
9. Install a 12 volt battery with 40 ampere hour rating, recommended for winter use (if not already done). The battery hold-downs furnished will accept any 2 SM Series battery.



WARNING

USE SAFETY GLASSES OR OTHER FACE PROTECTION AGAINST POSSIBLE BATTERY EXPLOSION. DO NOT SMOKE AND AVOID OTHER SOURCES OF IGNITION.

10. Attach the positive battery cable (each end should have a rubber boot) to the positive terminal of the battery. Make sure these protective boots are covering the positive terminal post on the battery and on the solenoid. Attach one end of the remaining battery cable to the negative terminal of the battery.
11. When finished, make sure all wires are away from moving parts and lower engine shroud.
12. Plug cable from spreader into socket mounted on truck.



WARNING

Never operate machine with engine shroud in the upright position. Never climb into hopper while the engine is operating or capable of being operated.

SERIOUS INJURY or DEATH MIGHT OCCUR.

NOTE: Read and fully understand the owners manual supplied by the engine manufacturer before operating this equipment. Not doing so, endangers your safety and the warranty of the engine.

CENTER HIGH MOUNT STOP LAMP (CHMSL)



WARNING

Federal Motor Vehicle Safety Standards require all Trucks, Buses, and Multipurpose passenger vehicles, manufactured on or after September 1, 1993, with a gross vehicle weight rating (GVWR) of 10,000 lbs. or less and overall width less than 80" must be equipped with a Center Height Mount Stop Lamp (CHMSL).

If the original equipment CHMSL is obscured, an auxiliary CHMSL must be installed to bring vehicle back into compliance with Federal Regulations.

Electrical Connection for Auxiliary CHMSL:

(Notes for all truck makes)

1. Use high quality butt connectors and shrink wrap on all electrical splice connections. Wire should be routed and secured to protect against abrasion, sharp edges, excessive movement. It is highly recommend that wiring to be placed in convoluted tubing and secured with tie wraps.
2. When drilling holes, any bare metal should be coated with a rust preventative, use appropriate size grommets and seal hole with appropriate sealant.
3. Allow for normal movement / twisting between cab and chassis / pickup box when routing wires.
4. When spreader is removed from the truck, the OEM CHMSL must be reconnected.



WARNING

Consult the truck manufacturer for an approved method of connecting an auxiliary CHMSL to the particular truck which is to carry the Spreader. Methods vary with truck models, optional equipment and years of manufacture. **IMPROPER CONNECTIONS COULD RESULT IN A VARIETY OF PROBLEMS AFFECTING CRITICAL SYSTEMS SUCH AS BRAKING, ELECTRICAL AND EMISSION ! DON'T GUESS !**

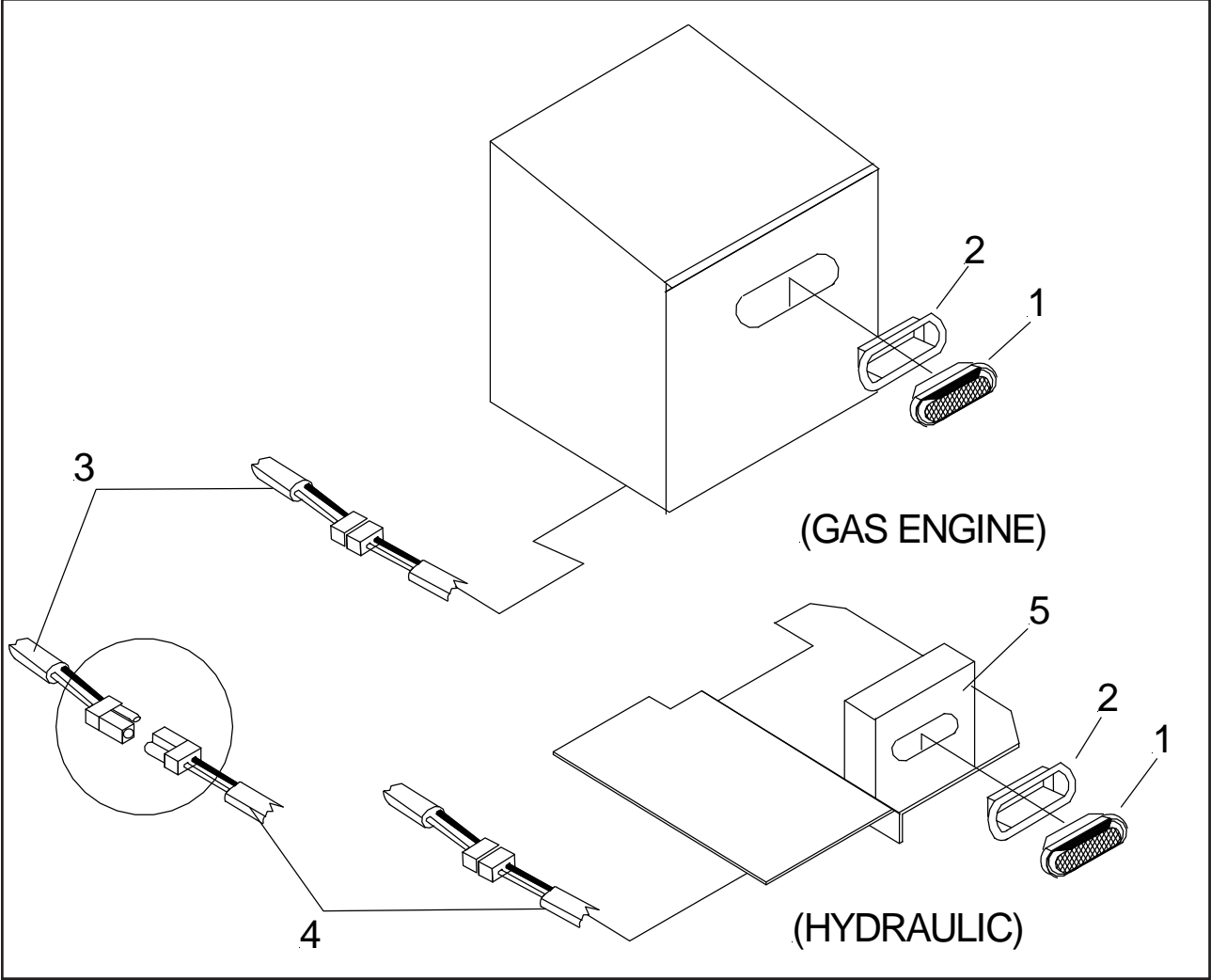
PV Spreader CHMSL Installation:

Mount power cable (62738) with plug at rear of truck frame and route to truck CHMSL power feed. Trim excess cable length, attach white wire to suitable ground, attach black wire to truck's CHMSL power feed. Connect cable on spreader to CHMSL power cable.

When the spreader is removed from the truck, the OEM CHMSL must be reconnected.

CENTER HIGH MOUNTING STOP LIGHT

<u>ITEM</u>	<u>PART NUMBER</u>	<u>QTY.</u>	<u>DESCRIPTION</u>
	62097	1	Kit, Center High Mount Stop Light
1	62714	1	• Lamp, Stop
2	62715	1	• Grommet
3	62364	1	• Cable, Light Power
4	62738	1	• Cable, Stop Lamp
5	62283	1	• Weld, Stop Lamp Bracket - Hydraulic Units ONLY
6	62739	1	• Hardware Bag - Not Shown



INSTALLATION INSTRUCTIONS

BURNISHING CLUTCH

Clutch pre-run setup

Clutches must be burnished before operation. We recommend the clutches to be engaged / disengaged a few time to break them in before being placed under load.

1. Rotate the clutch and check for rubbing or interference.
2. Reinstall the belt/chain, do not over tighten.
3. Run the engine at 50% throttle.
4. Engage and disengage the clutch 25 times, 10 seconds "ON" and 10 seconds "OFF".
5. Run the engine at 75% throttle.
6. Engage and disengage the clutch 25 times, 10 seconds "ON" and 10 seconds "OFF".

Magnum recommends 15-20 ft-lbs of torque on pulley assembly screws (5/16-18UNC) and 20-30 ft-lbs of torque on shaft fixing screw.



WARNING!

NEVER PERFORM THE BURNISHING PROCEDURE WHILE DRIVE IS LOADED.



WARNING!

BURNISHING PROCEDURE MUST BE DONE BEFORE INSTALLATION, WHEN FULL TORQUE IS IMMEDIATELY REQUIRED FROM THE CLUTCH!



WARNING!

DURING SPREADER OPERATION, IF CONVEYOR FREEZES UP - THE CLUTCH SHOULD IMMEDIATELY BE DISENGAGED.

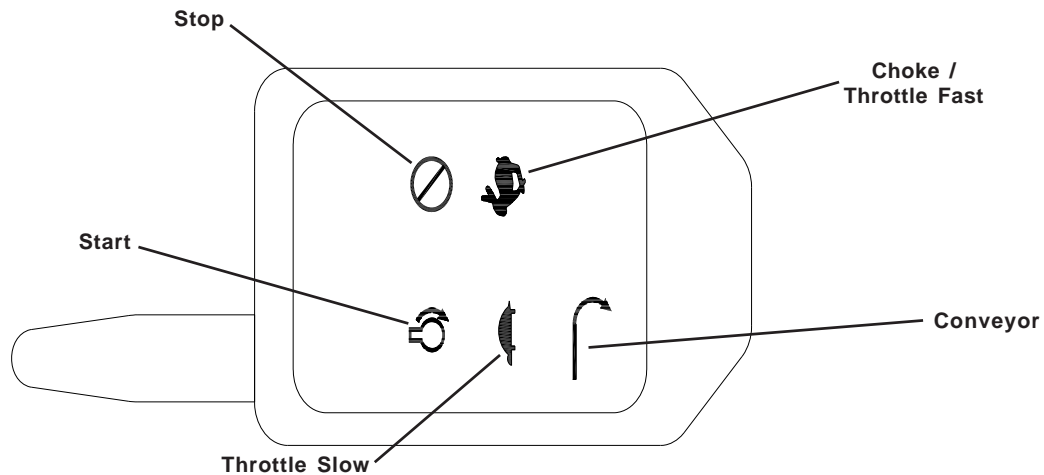


WARNING!

NEVER USE THE CLUTCH TO "FREE UP" THE CONVEYOR.

SPREADER OPERATION

Wireless Throttle Control Button Functions (Sequence of Operations)



A. ON/Off System power activated (ready to start). Spreader engine not running. Spreader conveyor is not engaged.

B. START (Engine Only)

1. Open fuel shut off valve on engine. CHOKE (Cold engine.) Hold down for 5 seconds to move the throttle actuator to the choke position.

NOTE: Choking a warm engine may not be necessary.

4. START Hold down button until engine starts.
 5. TURTLE Decreases throttle speed - adjust as engine warms up. Will stop the choke function.
- RABBIT Increases throttle speed.

C. TO ENGAGE SPREADER CONVEYOR

1. CONVEYOR Push CONVEYOR switch only after you are sure no one is in the hopper or near the spinner!

D. TO CONTROL CONVEYOR SPEED

1. RABBIT Hold RABBIT to increase speed. Note **DO NOT** hold switch in HI position after the desired RPM is achieved or you will choke and/or stall the engine.
2. TURTLE Hold TURTLE to decrease speed.

E. TO DISENGAGE SPREADER CONVEYOR

1. CONVEYOR Push conveyor button.

F. TO TURN ENGINE OFF (With or without conveyor running).

1. TURTLE Push throttle slow button to reduce setting to idle (this prevents engine flooding and hard starting).
2. STOP Push STOP button and hold 5 seconds.

NOTE: OFF can be pushed at anytime during spreader operation to cut power to the unit; however, you should normally use steps under F above.

G. Do not attempt to start the engine with the conveyor engaged.

H. Close fuel shut off valve on engine if unit is to be transported while not running.

 **WARNING!**

1. As with all power equipment, safety is the number one concern.
2. Do not operate this equipment until you fully understand how it functions.
3. Before starting engine, be sure that no one is near the rear of the unit and that no one is inside the unit!
4. Do not start the engine or engage the conveyor (which is interconnected to the spinner) until everyone is clear from moving parts and flying material from the spinner.

SPREADER OPERATION

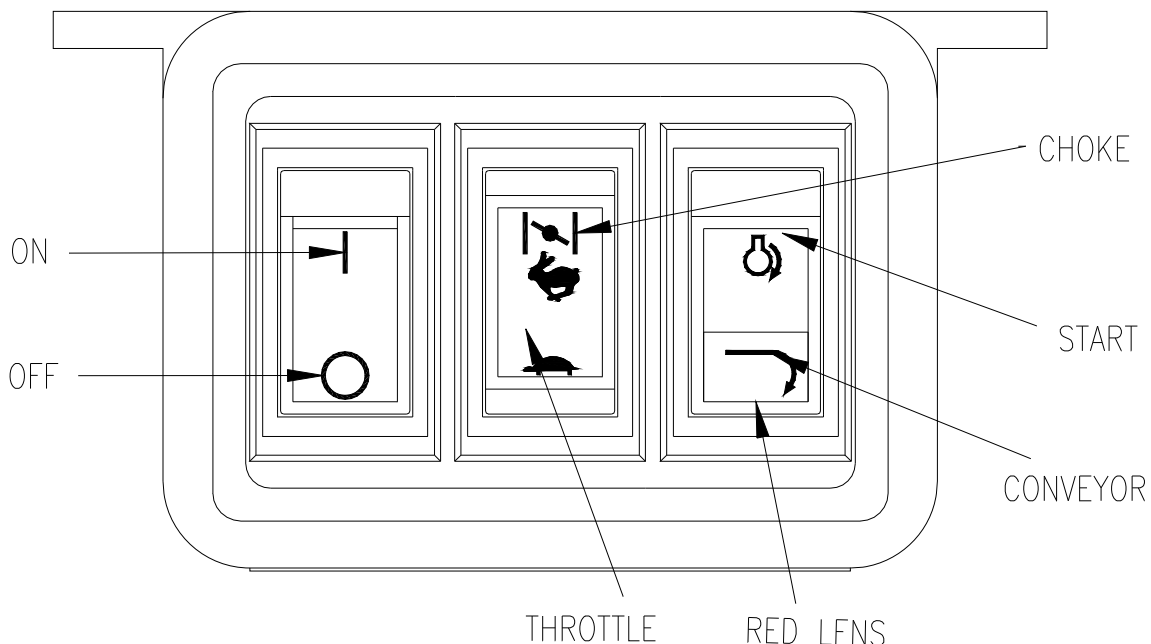
Electric Throttle Control Panel Switch Functions (Optional)

(Sequence of Operations)



WARNING

1. **Electric Throttle Control Panel Switch Functions (Optional)**
(Sequence of Operations)



Electric Throttle Control Panel Switch Functions Cont.

- A. **ON/OFF** System power activated (ready to start). Spreader engine is not running. Spreader conveyor is not engaged.
- B. **START (Engine only)**
 1. Open fuel shut off valve on engine.
 2. On On switch depressed.
 3. Choke (cold engine) Hold down for 5 seconds to move the throttle actuator to the choke position.
Note: Choking a warm engine may not be necessary.
 4. Start Hold down until engine starts.
 - 4a. On models with 6.5 HP at temperatures under minus 20° F (minus 29° C) it may be necessary to start the engine manually.
 5. Turtle Decreases throttle speed - adjust as engine warms up. Will stop the choke function.
Rabbit Increases throttle speed.
- C. **TO ENGAGE Spreader Conveyor**
 1. Push CONVEYOR switch only after you are sure no one is in the hopper or near the spinner! This lights up the red indicator light, if light does not light, take care to verify that the light is not malfunctioning.
- D. **TO CONTROL Conveyor Speed.**
 1. Hold RABBIT to increase speed. NOTE: Do not hold switch in HI position after the desired RPM is achieved or you will choke and/or stall the engine.
 2. Hold TURTLE to decrease speed.

SPREADER OPERATION

E. TO DISENGAGE Spreader Conveyor.

1. Tap START switch momentarily so that red indicator light goes out. Do not fully depress the START switch, only half way is needed. Only the conveyor stops, the engine continues to run.

F. TO TURN ENGINE OFF (with or without conveyor running).

1. Depress LO on throttle control to reduce setting to idle (this prevents engine flooding and hard starting).
2. Push OFF position on the ON/OFF switch.

NOTE: OFF can be pushed at anytime during spreader operation to cut power to the unit . However, you should normally use steps under F above.

(Once the off switch is depressed - the starting procedure must be followed for engine re-start.)

G. Do not attempt to start the engine with the conveyor engaged. (CONV switch light will be lit to indicating its' being on.)

H. Close fuel shutoff valve on engine if unit is to be transported while not running.



WARNING

1. **As with all power equipment, safety is the number one concern.**
2. **Do not operate this equipment until you fully understand how it functions.**
3. **Before starting engine, be sure that no one is near the rear of the unit and that no one is inside the unit!**
4. **Do not start the engine or engage the conveyor (which is interconnected to the spinner); until everyone is clear from moving parts and flying material from the spinner.**

SPREADER OPERATION

- A. Start the engine and engage the clutch. The amount of material spread, depends on engine speed and gate opening. Decreasing RPM and/or gate height will decrease amount spread; the inverse holds true also. Notice that the electric clutch can be engaged or disengaged at any time and at any engine RPM. However, since engagement time and torque is almost instantaneous, to prevent premature spinner chain failure and chain tension loss, it is recommended that the electric clutch be engaged at the lowest possible RPM without stalling the engine.

If the truck is to be driven for an extended period of time while the spreader is not operating, it is RECOMMENDED to turn off the gas at the carburetor inlet to prevent the carburetor from over filling with fuel.

Before loading the spreader the first time, start and stop the conveyor several times to break in the clutch.



WARNING

**ALWAYS STAND AT A SAFE DISTANCE AWAY FROM THE SPINNER WHILE OPERATING
ALWAYS WEAR EYE PROTECTION WHEN OUTSIDE OF THE TRUCK CAB WHILE
SPREADER IS RUNNING.**

- B. Spread pattern depends on baffle settings and spinner RPM. Maximum spreader width is 30 ft.
1. Speeding up or slowing down the engine will increase or decrease spread pattern width.
 2. Internal baffle adjustments will move the spread pattern to the right or left.
 3. External baffle adjustments will block spreading to the right or left side.

DESIRED SPREAD PATTERN	BAFFLE SETTING	
	INTERNAL	EXTERNAL
CENTERED BEHIND TRUCK	BOTH DOWN	ALL THREE UP
BEHIND TRUCK AND LEFT	RH - DOWN LH - UP	RH - DOWN LH - UP
BEHIND TRUCK AND RIGHT	RH - UP LH - DOWN	RH - UP LH - DOWN
WINDROW BEHIND TRUCK	RH - DOWN LH - DOWN	ALL - DOWN

4. External Baffles can be lowered to an intermediate position to baffle down the particles that may otherwise leave the spinner at a high trajectory.

SERVICE BULLETIN NO. 178

1.8, 2.0 and MDV Insert Hopper Spreader

Briggs & Stratton Corporation and Honda Engine Motor of America have stated in their manuals:

DO NOT TRANSPORT ENGINE WITH FUEL IN TANK OR WITH FUEL SHUT-OFF VALVE OPEN.

Failure in doing this may cause the engine crankcase to fill with fuel. If this occurs the engine warranty will be void by the engine manufacturer. It is the responsibility of the end user to ensure that the fuel shut-off is closed when the engine is not in operation.

MAINTENANCE



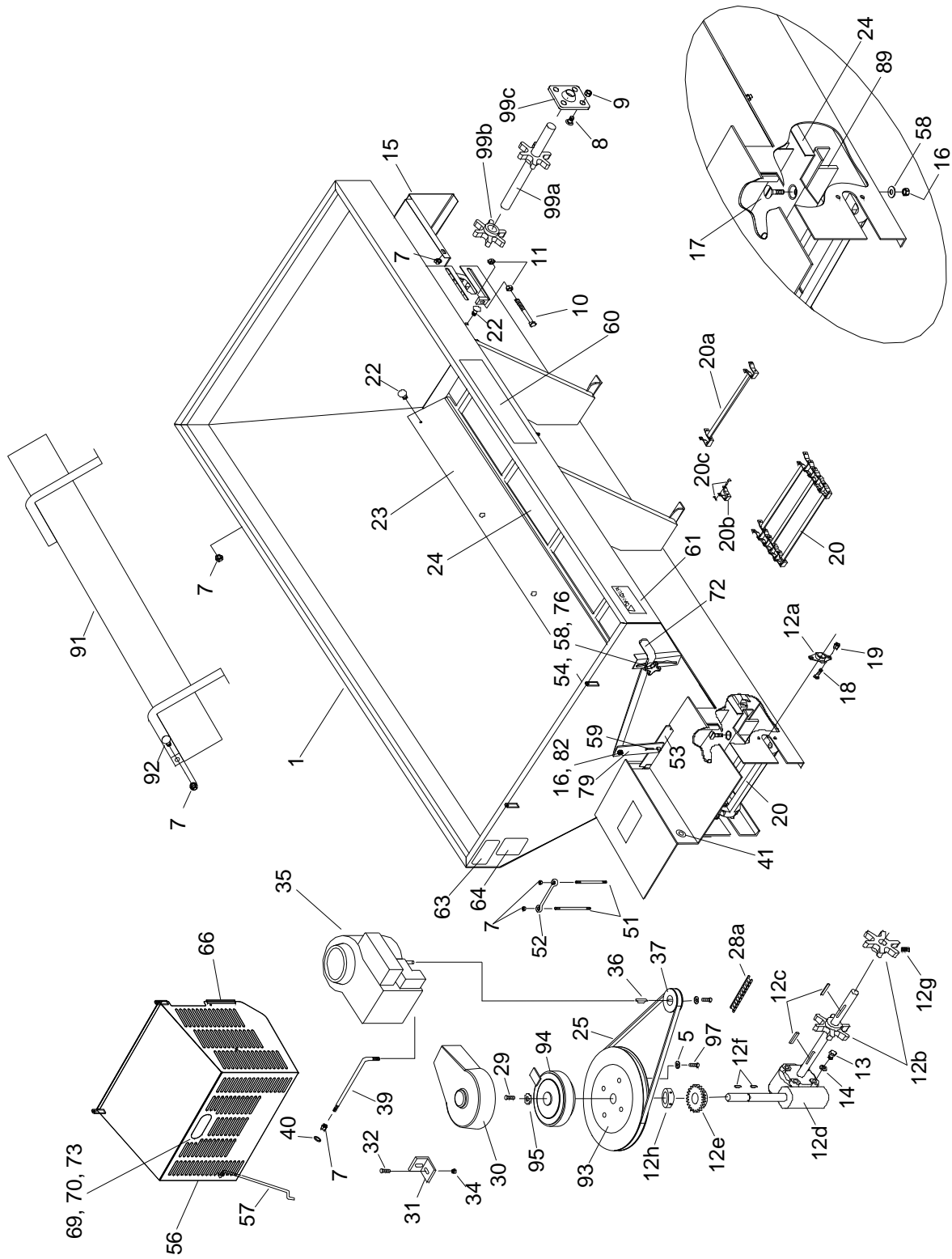
WARNING

DO NOT ATTEMPT TO LIFT THE SPREADER BY THE CENTER LIFT OR CORNER LIFT HOOKS WITH MATERIAL IN THE SPREADER.

BEFORE BEGINNING ANY MAINTENANCE ON SPREADER, DISCONNECT SPREADER BATTERY LEADS.

1. Grease idler bearings on idler shaft takeup assembly, outboard bearing on gearbox output shaft, and both spinner bearings every ten hours of operation.
2. **CAUTION!** Over greasing may cause seal damage. The gearbox must be filled to oil level plug with SAE 90 gear type lubricant. Keep breather plug clean.
3. Drag chain slack on V-boxes should be checked periodically and taken up if distance between center line of rear sprocket and point where chain contacts lower flange on longitudinal is less than eight (8) inches. **CAUTION!** Over tightening conveyor chain can cause serious drive train problems. Above distance must not exceed 20 inches.
4. If the spreader is equipped with a gasoline engine, it should be maintained per engine manufacturer's instruction. (Instructions and parts book is enclosed.)
5. V-belt tension must be maintained. The v-belt can be tightened by loosening engine hold-down bolts and sliding engine as required. **CAUTION!** Over tightening of v-belt may damage gearbox.
6. Roller chain tension must be maintained. It is adjusted by loosening the spinner mounting bearings and sliding the bearings. Make sure the spinner shaft is straight up and down before retightening. Oil chain often and at end of season.
7. When the box is not in use, it should be washed out. If the box is put in storage, all surfaces should be oiled or painted after washing.
8. For HYDRAULIC SPREADERS, maintain oil level three fourths (3/4) full in reservoir with clean high grade non-foaming hydraulic oil; recommended viscosity 100-200 SSU. Operating temperature should be limited to 180°F. Replace filter cartridge No. 62382 at least twice a year.
9. If chain becomes stuck or "froze" to the floor to the point where the clutch cannot pull the load, never attempt to free chain using a pipe wrench or any other tool on the output shaft. The gearbox is designed to accept torque from input shaft only. Trying to turn output shaft will strip the gears, thus voiding the warranty.
10. To minimize problems and extend the life of the Electric Clutch, the following is highly recommended.
 - a. Before starting unit, make sure the drag chain is free (not stuck or "froze" to the floor). If the drag chain is stuck, this can cause the clutch to burnup.

ENGINE DRIVEN HOPPER SPREADER - HONDA



PARTS LIST FOR ENGINE DRIVEN HOPPER ASSEMBLY

(Stainless Steel) Honda 50" Wide/One Piece Top Screen
2.0 Cu. Yd. (65003)

<u>ITEM</u>	<u>PART NUMBER</u>	<u>QTY.</u>	<u>DESCRIPTION</u>
1	63824	1	Weld, PV 8' Hopper (2.0 Cu. Yd.)
N/S	63301	3	Locknut, 5/16"-18 Nylon Insert, SS
5	63309	4	Lockwasher, 5/16" Medium Split, SS
7	62641	28	Nut, 5/16"-18 Serrated Flange, SS
8	63180	8	Bolt, 1/2"-13 X 1 1/2" Carriage, Short NK
9	62754	8	Nut, 1/2"-13 Serrated Flange, SS
10	62326	2	Bolt, 1/2"-13 X 6" Tap, SS
11	62336	4	Nut, 1/2"-13 Hex Jam, SS
12	63177	1	Sub-Assembly, Gearbox
12a	61163	1	Bearing, 1 1/4"
12b	63100	2	Machining, Sprocket
12c	62000	2	Key, 1/4" Square X 2"
12d	63410	1	Gearbox Assembly 20:1
12e	63685	1	Sprocket, 40B13-1"
12f	61201	1	Key, 1/4" X 7/8" Woodruff
12g	63123	2	Setscrew, 3/8"-16 X 3/8" Allen Head
12h	62769	1	Collar, Set 1"
13	62750	4	Bolt, 1/2"-13 X 3/4" HH, SS
14	62770	4	Lockwasher, 1/2" Medium Split, SS
15	63264	1	Forming, Guard, Conveyor
16	62638	3	Locknut, 3/8"-16 Nylon Insert, SS
17	62771	4	Screw, 3/8"-16 X 1 1/4" Slotted FH, SS
18	62695	6	Bolt, 3/8"-16 X 1 1/4" HH, SS
19	62743	5	Nut, 3/8"-16 Serrated Flange, SS
20	62129	1	Weldment, Drag Chain 8 Ft.
20a	62342	1	Weldment, Single Links w/Bar
20b	62002	2	Link, Connecting Only
20c	61204	2	Pin, Master for Chain without Cotter
	62755	2	Pin, Cotter Only
22	62640	14	Bolt, 5/16"-18 X 3/4" Carriage, SS
23	63830	2	Chainshield, PV 8 Ft.
24	63836	1	Forming, Floor, 8 Ft., SS
25	61162	1	V-Belt, BX-48
N/S	63166	1	Cable, Control - Spreader
N/S	63834	1	Carton, Shipping
28a	63844	1	Chain, Roller #40-56 Pitch w/c
	63835	2	Hardware, Bag
	62738	1	Cable, Stop Lamp
29	62752	1	Bolt, 5/16"-18 X 3/4" HH, SS
30	61168	1	Cover, Clutch
31	61176	1	Retainer, Clutch
32	62772	3	Bolt, 1/4"-20 X 1" HH, SS
34	62690	3	Nut, 1/4"-20 Serrated Flange, SS
35	63171	1	Engine, w/Decals 11 HP (Honda)
36	61196	1	Key, 1/4" Square X 1"
37	61177	1	Pulley, Driver
N/S	62773	3	Bolt, 5/16"-18 X 1 1/2" HH, SS
39	61205	1	Bolt, "L"
40	63173	2	Flatwasher, 5/16" U.S.S., SS
41	62765	1	Grommet, 7/8" X 1 5/8"

A/N = AS NEEDED
N/S = NOT SHOWN

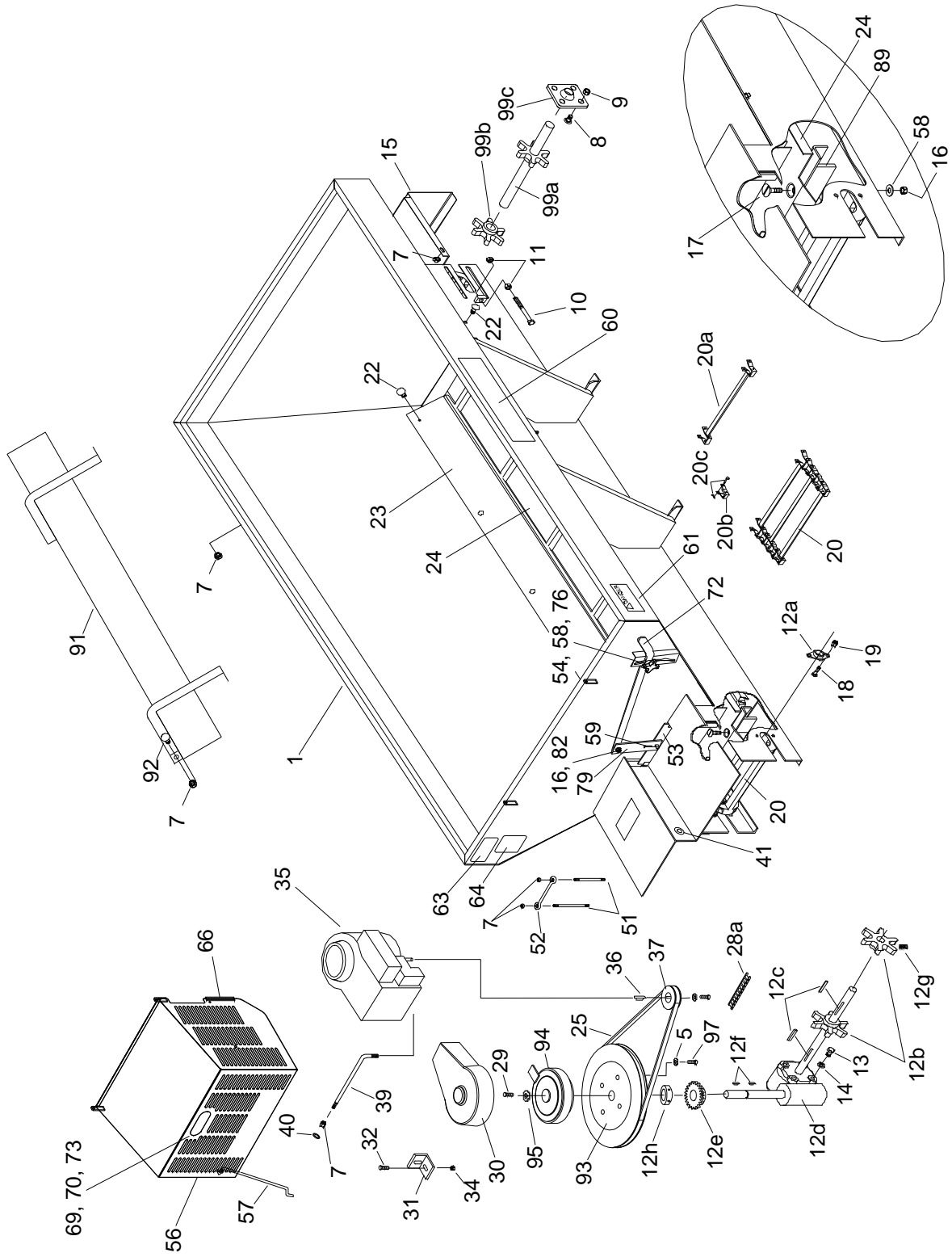
PARTS LIST FOR ENGINE DRIVEN HOPPER ASSEMBLY

(Stainless Steel) Honda 50" Wide/One Piece Top Screen
2.0 Cu. Yd. (65003)
(Continued)

<u>ITEM</u>	<u>PART NUMBER</u>	<u>QTY.</u>	<u>DESCRIPTION</u>
N/S	62040	1	Cable, Battery-Black
N/S	63130	1	Cable, Battery-Red
N/S	62192	1	Tie, Nylon 14"
N/S	62652	1	Clamp, Cushioned 1/2", SS
N/S	63883	6	Tie, Nylon 7"
51	61206	2	Rod, battery
52	62767	1	Holddown
53	63822	1	Weldment, Feedgate, SS
54	61169	1	Knob, Hand
56	63021	1	Weldment, Shroud, SS
57	61215	1	Rod, Prop
58	22230	4	Flatwasher, 3/8" U.S.S., SS
59	62691	1	Pin, 1/8" X 1" Cotter, SS
60	63845	3	Decal, Magnum Logo
61	62009	3	Decal, Danger Conveyor
N/S	62768	1	Decal, Gasoline Only
63	63846	1	Decal, Magnum Serial Tag
64	62007	1	Decal, Caution
N/S	00122-152-01	1	Instructional Manual, Magnum PV
66	63128	2 Ft.	Trim, Vinyl
69	62364	1	Cable, Light Power
70	62715	1	Grommet, Mounting
N/S	63880	.25 Pint	Oil, 5W30 Motor
72	63828	1	Forming, Handle, Feedgate
73	62714	1	Lamp, Stop (Center High Mount)
N/S	62808	1	Flatwasher, 7/16", SS
76	62746	1	Bolt, 3/8"-16 X 1" Carriage, SS
79	63817	1	Bar, Pivot SS
N/S	62706	1	Hose, 5/16" X 13" (1) Drain Hose
N/S	62705	1	Plug, 37 Deg. Jic
N/S	62707	1	Bolt, Banjo 14mm
N/S	62704	1	Washer, Sealer 14mm
82	62813	1	Bolt, 3/8"-16 X 1 1/4" Carriage, SS
N/S	63125	1	Boot, Battery Cable Straight
N/S	63884	3	Boot, Alternator Cable
89	62354	1	Wiper, Chain
N/S	63201	1	Weldment, Screen, 8 Ft.
91	63184	1	Weldemnt, Inverted Vee, 8 Ft.
92	63175	4	Bolt, 5/16"-18 X 1" Carriage, SS
93	61161	1	Pulley, Driven
94	61167	1	Clutch, Electric
95	63103	1	Washer, Flat, Clutch Retainer
97	62634	3	Screw, 5/16"-18 X 5/8" Socket Cap
N/S	61201	1	Key, 1/4" X 7/8" Woodruff
99	63179	1	Assembly, Idler 4-Bolt
99a	62370	1	Weldment, Idler Shaft
99b	61171	1	Sprocket, Drag Chain
99c	62355	2	Bearing, 1 1/4"
N/S	62804	1	Instruction Package (Honda)

A/N = AS NEEDED
N/S = NOT SHOWN

ENGINE DRIVEN HOPPER SPREADER - HONDA



PARTS LIST FOR ENGINE DRIVEN HOPPER ASSEMBLY

(Stainless Steel) Honda 50" Wide/One Piece Top Screen
2.0 Cu. Yd. (65003)
(Continued)

<u>ITEM</u>	<u>PART NUMBER</u>	<u>QTY.</u>	<u>DESCRIPTION</u>
N/S	62702	1	Plug, Drain (Honda Tapped)
N/S	62720	1	Linkage, Throttle
N/S	62718	1	Bracket, Actuator, Honda
N/S	62719	1	Lever, Extension, Honda Throttle
N/S	63843	1	Assy, Lift Rear Forklift PV CS
N/S	63174	2	Bolt, 5/16-24 X 1 HH SS
N/S	62657	4	Bolt, 3/8-16 x 4 CA
N/S	62649	5	Screw, #8-32 X 3/4" Phillips Round, SS
N/S	63121	2	Screw, 2-56 X 3/8 SR SS
N/S	62799	4	Bolt, M5 X 25 HH SS
N/S	62650	5	Locknut, #8-32 Nylon Insert, SS
N/S	63122	2	Nut, 2-56 Nylon Locknut
N/S	20326	3	Lockwasher, 5/16" Med Split SS
N/S	62800	2	Lockwasher, #10 Med Split SS
N/S	62801	2	Flatwasher, #10, SS
N/S	62651	3	Flatwasher, #8, SS
N/S	62339	2	Bushing, Spacer SS
N/S	62644	1	Decal, Engine Warranty
N/S	62643	1	Decal, Fuel Shut-Off
N/S	63165	1	Motor, Actuator
N/S	63881	1	Skid, 8'
N/S	63882	1	Cover, PV Storage
N/S	62183	6	Tie, Nylon 5 1/2"
N/S	62725	1	Clamp, Rod Prop
N/S	63688	1	Remote Control

A/N = AS NEEDED
N/S = NOT SHOWN

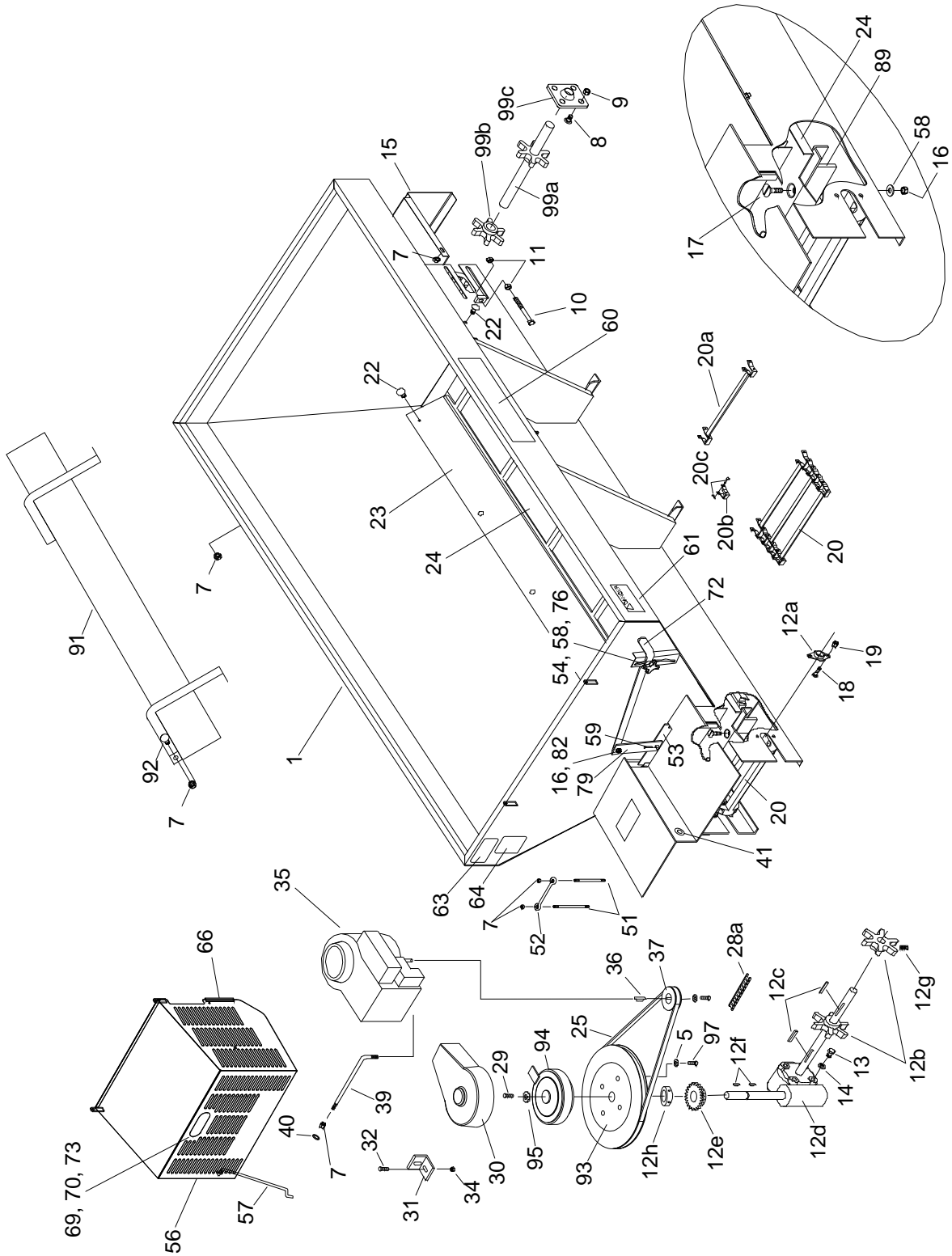
PARTS LIST FOR ENGINE DRIVEN HOPPER ASSEMBLY

(Stainless Steel) Briggs & Stratton 50" Wide/One Piece Top Screen
2.0 Cu. Yd. (63808)

<u>ITEM</u>	<u>PART NUMBER</u>	<u>QTY.</u>	<u>DESCRIPTION</u>
1	63823	1	Weld, PV 8' Hopper (2.0 Cu. Yd.)
N/S	63301	3	Locknut, 5/16"-18 Nylon Insert, SS
5	63309	4	Lockwasher, 5/16" Medium Split, SS
7	62641	28	Nut, 5/16"-18 Serrated Flange, SS
8	63180	8	Bolt, 1/2"-13 X 1 1/2" Carriage, Short NK
9	62754	8	Nut, 1/2"-13 Serrated Flange, SS
10	62326	2	Bolt, 1/2"-13 X 6" Tap, SS
11	62336	4	Nut, 1/2"-13 Hex Jam, SS
12	63177	1	Sub-Assembly, Gearbox
12a	61163	1	Bearing, 1 1/4"
12b	63100	2	Machining, Sprocket
12c	62000	2	Key, 1/4" Square X 2"
12d	63410	1	Gearbox Assembly 20:1
12e	63685	1	Sprocket, 40B13-1"
12f	61201	1	Key, 1/4" X 7/8" Woodruff
12g	63123	2	Setscrew, 3/8"-16 X 3/8" Allen Head
12h	62769	1	Collar, Set 1"
13	62750	4	Bolt, 1/2"-13 X 3/4" HH, SS
14	62770	4	Lockwasher, 1/2" Medium Split, SS
15	63264	1	Forming, Guard, Conveyor
16	62638	3	Locknut, 3/8"-16 Nylon Insert, SS
17	62771	4	Screw, 3/8"-16 X 1 1/4" Slotted FH, SS
18	62695	6	Bolt, 3/8"-16 X 1 1/4" HH, SS
19	62743	5	Nut, 3/8"-16 Serrated Flange, SS
20	62129	1	Weldment, Drag Chain 8 Ft.
20a	62342	1	Weldment, Single Links w/Bar
20b	62002	2	Link, Connecting Only
20c	61204	2	Pin, Master for Chain without Cotter
	62755	2	Pin, Cotter Only
22	62640	14	Bolt, 5/16"-18 X 3/4" Carriage, SS
23	63830	2	Chainshield, PV 8 Ft.
24	63836	1	Forming, Floor, 8 Ft., SS
25	61162	1	V-Belt, BX-48
N/S	63166	1	Cable, Control - Spreader
N/S	63834	1	Carton, Shipping
28a	63844	1	Chain, Roller #40-56 Pitch w/c
	63835	2	Hardware, Bag
	62738	1	Cable, Stop Lamp
29	62752	1	Bolt, 5/16"-18 X 3/4" HH, SS
30	61168	1	Cover, Clutch
31	61176	1	Retainer, Clutch
32	62772	3	Bolt, 1/4"-20 X 1" HH, SS
34	62690	3	Nut, 1/4"-20 Serrated Flange, SS
35	63311	1	Engine, 10.5 HP (B & S) VS, INTEK
36	61196	1	Key, 1/4" Square X 1"
37	61177	1	Pulley, Driver
N/S	62773	3	Bolt, 5/16"-18 X 1 1/2" HH, SS
39	61205	1	Bolt, "L"
40	63173	2	Flatwasher, 5/16" U.S.S., SS

A/N = AS NEEDED
N/S = NOT SHOWN

ENGINE DRIVEN HOPPER SPREADER - BRIGGS & STRATTON



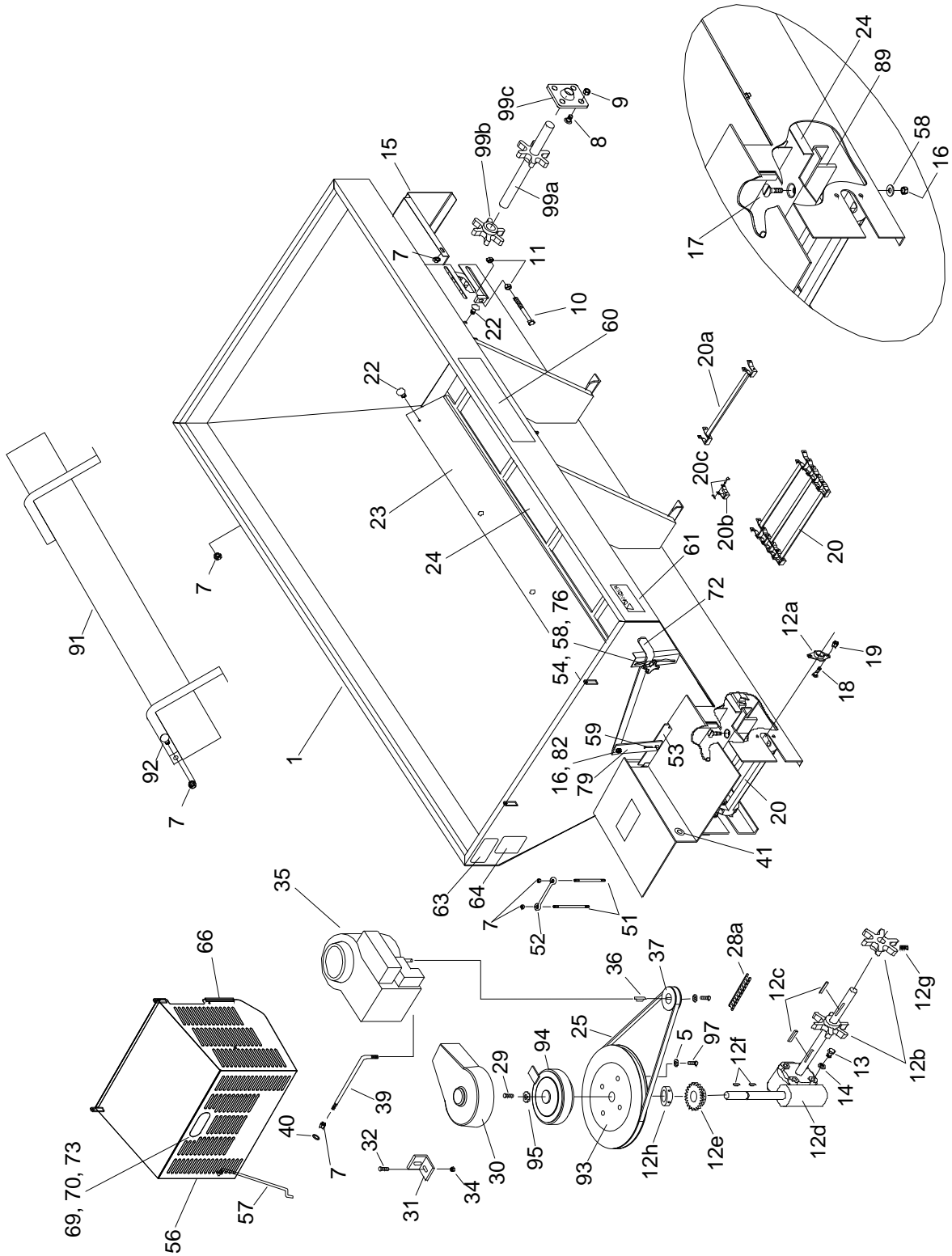
PARTS LIST FOR ENGINE DRIVEN HOPPER ASSEMBLY

(Stainless Steel) Briggs & Stratton 50" Wide/One Piece Top Screen
2.0 Cu. Yd. (63808)
(Continued)

<u>ITEM</u>	<u>PART NUMBER</u>	<u>QTY.</u>	<u>DESCRIPTION</u>
41	62765	1	Grommet, 7/8" X 1 5/8"
N/S	61179	1	Solenoid, Grounded
N/S	62040	1	Cable, Battery-Black
N/S	63130	1	Cable, Battery-Red
N/S	61213	1	Cable, Starter, 9" - Red
N/S	62192	1	Tie, Nylon 14"
N/S	62652	1	Clamp, Cushioned 1/2", SS
N/S	63883	6	Tie, Nylon 7"
51	61206	2	Rod, battery
52	62767	1	Holddown
53	63822	1	Weldment, Feedgate, SS
54	61169	1	Knob, Hand
56	63021	1	Weldment, Shroud, SS
57	61215	1	Rod, Prop
58	22230	4	Flatwasher, 3/8" U.S.S., SS
59	62691	1	Pin, 1//8" X 1" Cotter, SS
60	63845	3	Decal, Magnum Logo
61	62009	3	Decal, Danger Conveyor
N/S	62768	1	Decal, Gasoline Only
63	63846	1	Decal, Magnum Serial Tag
64	62007	1	Decal, Caution
N/S	00122-152-01	1	Instructional Manual, Magnum PV
66	63128	2 Ft.	Trim, Vinyl
69	62364	1	Cable, Light Power
70	62715	1	Grommet, Mounting
N/S	63880	.25 Pint	Oil, 5W30 Motor
72	63828	1	Forming, Handle, Feedgate
73	62714	1	Lamp, Stop (Center High Mount)
N/S	62808	1	Flatwasher, 7/16", SS
76	62746	1	Bolt, 3/8"-16 X 1" Carriage, SS
79	63817	1	Bar, Pivot SS
N/S	62633	1	Hose, 3/8" X 13" (1) Wire
N/S	62937	1	Elbow, 3/8" 90 Degree Street
82	62813	1	Bolt, 3/8"-16 X 1 1/4" Carriage, SS
N/S	63125	1	Boot, Battery Cable Straight
N/S	63884	3	Boot, Alternator Cable
89	62354	1	Wiper, Chain
N/S	63201	1	Weldment, Screen, 8 Ft.
91	63184	1	Weldemnt, Inverted Vee, 8 Ft.
92	63175	4	Bolt, 5/16"-18 X 1" Carriage, SS
93	61161	1	Pulley, Driven
94	61167	1	Clutch, Electric
95	63103	1	Washer, Flat, Clutch Retainer
97	62634	3	Screw, 5/16"-18 X 5/8" Socket Cap
N/S	61201	1	Key, 1/4" X 7/8" Woodruff
99	63179	1	Assembly, Idler 4-Bolt
99a	62370	1	Weldment, Idler Shaft
99b	61171	1	Sprocket, Drag Chain
99c	62355	2	Bearing, 1 1/4"

A/N = AS NEEDED
N/S = NOT SHOWN

ENGINE DRIVEN HOPPER SPREADER - BRIGGS & STRATTON



PARTS LIST FOR ENGINE DRIVEN HOPPER ASSEMBLY

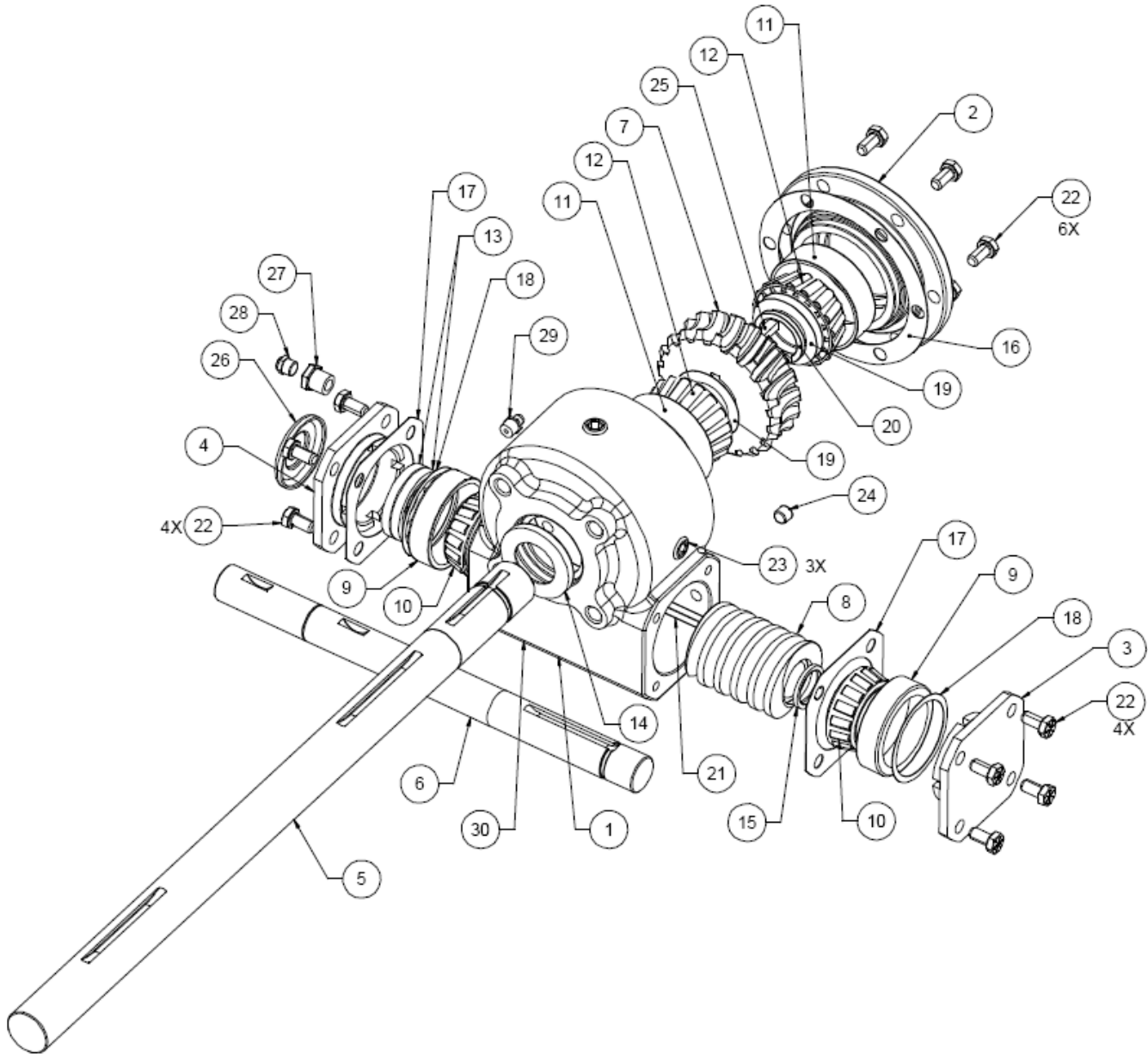
(Stainless Steel) Briggs & Stratton 50" Wide/One Piece Top Screen
2.0 Cu. Yd. (63808)

(Continued)

<u>ITEM</u>	<u>PART NUMBER</u>	<u>QTY.</u>	<u>DESCRIPTION</u>
N/S	62725	1	Clamp, Rod Prop
N/S	62644	1	Decal, Engine Warranty
N/S	62643	1	Decal, Fuel Shut-Off
N/S	62646	2	Screw, #10-32 PPH Machine
N/S	63165	1	Motor, Actuator
N/S	62648	1	Linkage, Throttle
N/S	62645	1	Bracket, Actuator, Briggs & Stratton
N/S	62649	5	Screw, #8-32 X 3/4" Phillips Round, SS
N/S	62651	3	Flatwasher, #8, SS
N/S	62650	5	Locknut, #8-32 Nylon Insert, SS
N/S	62803	1	Instruction Package, Assembly, B&S
N/S	62183	6	Tie, Nylon 5 1/2"
N/S	63131	1	Assembly, Ground Wire
N/S	63688	1	Remote Control
N/S	63881	1	Skid, 8'
N/S	63882	1	Cover, PV Storage
N/S	62657	4	Bolt, 3/8-16 x 4 CA
N/S	62803	1	Instruction Package (Briggs & Stratton)

A/N = AS NEEDED
N/S = NOT SHOWN

SUPERIOR GEARBOX ASSEMBLY

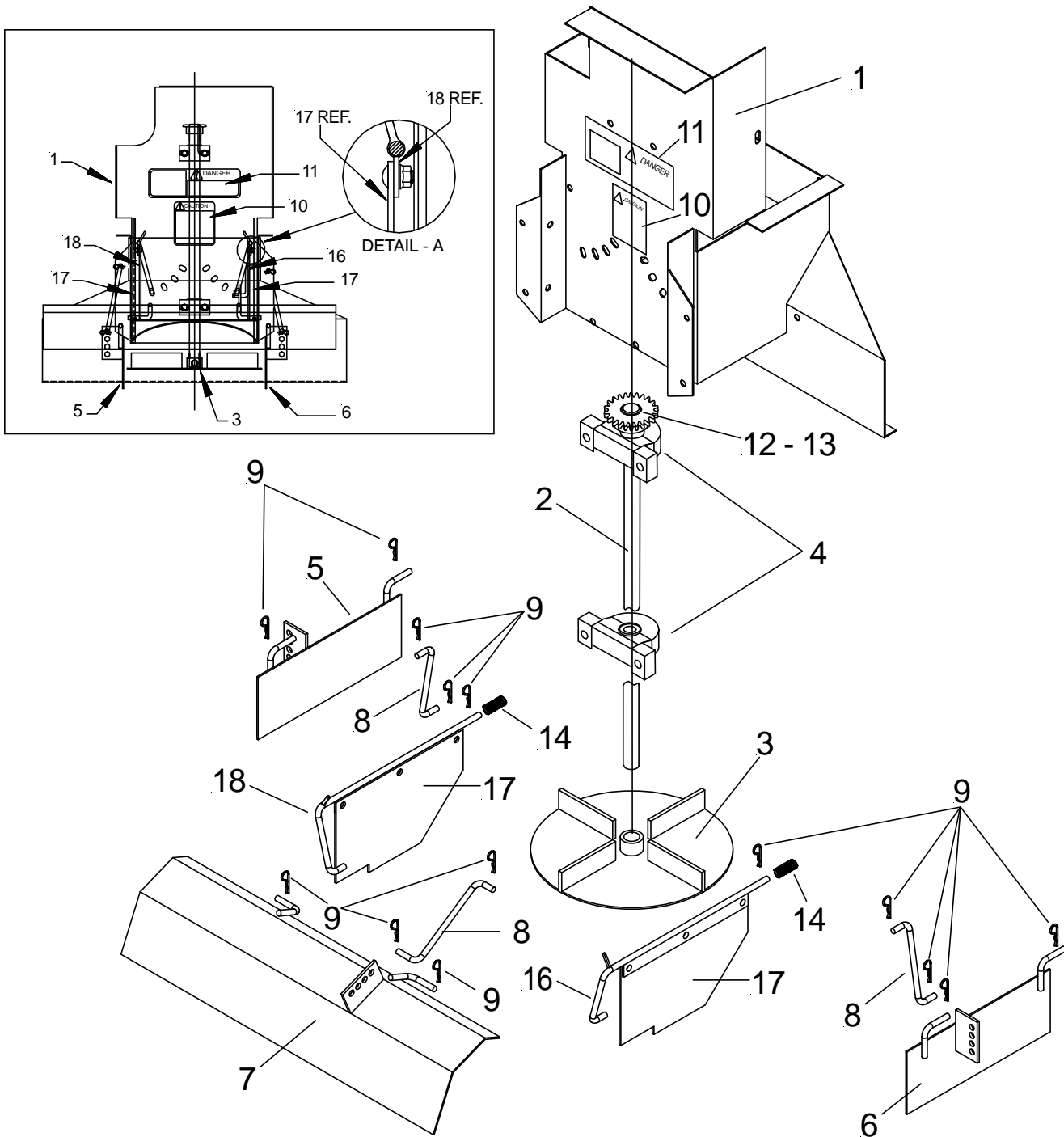


PARTS LIST FOR SUPERIOR GEARBOX ASSEMBLY

(63419)

<u>ITEM</u>	<u>PART NUMBER</u>	<u>QTY.</u>	<u>DESCRIPTION</u>
1	63849	1	Housing
2	63850	1	Cover
3	63851	1	End Cap
4	63852	1	End Cap, Thru
5	63853	1	Shaft, Output
6	63854	1	Shaft, Input
7	63855	1	Gear, Wheel, LH
8	63856	1	Gear, Worm, LH
9	63857	2	Bearing, Input Cup
10	63858	2	Bearing, Input Cone
11	63859	2	Bearing, Output Cup
12	63860	2	Bearing, Output Cone
13	63861	2	Seal, Input
14	63862	1	Seal, Output
15	63863	1	Retaining Ring, Input
16	63864	1	Gasket, Cover
17	63865	2	Gasket, Input
18	63866	AR	Shim, Input
19	63867	AR	Shim, Output
20	63868	1	Retaining Ring, Output
21	63869	1	Key, Input 1/4 X 1/4 X 2.0
22	63870	14	Hex Capscrew 5/16-18 X .62 RG 8
23	63871	4	Plug, 3/8-18 NPT
24	63872	1	Plug, 1/8-27 NPT
25	63873	1	Key, Output 1/4 X 1/4 X 1.08
26	63874	1	String Guard
27	63875	1	Bushing, 3/8 X 1/8
28	63876	1	5-PSI Relief Plug
29	63877	1	Zerk, Grease
30	63878	1	Label
31	63879	8 OZ	Oil, EP 85W140

SHORT SPINNER ASSEMBLY



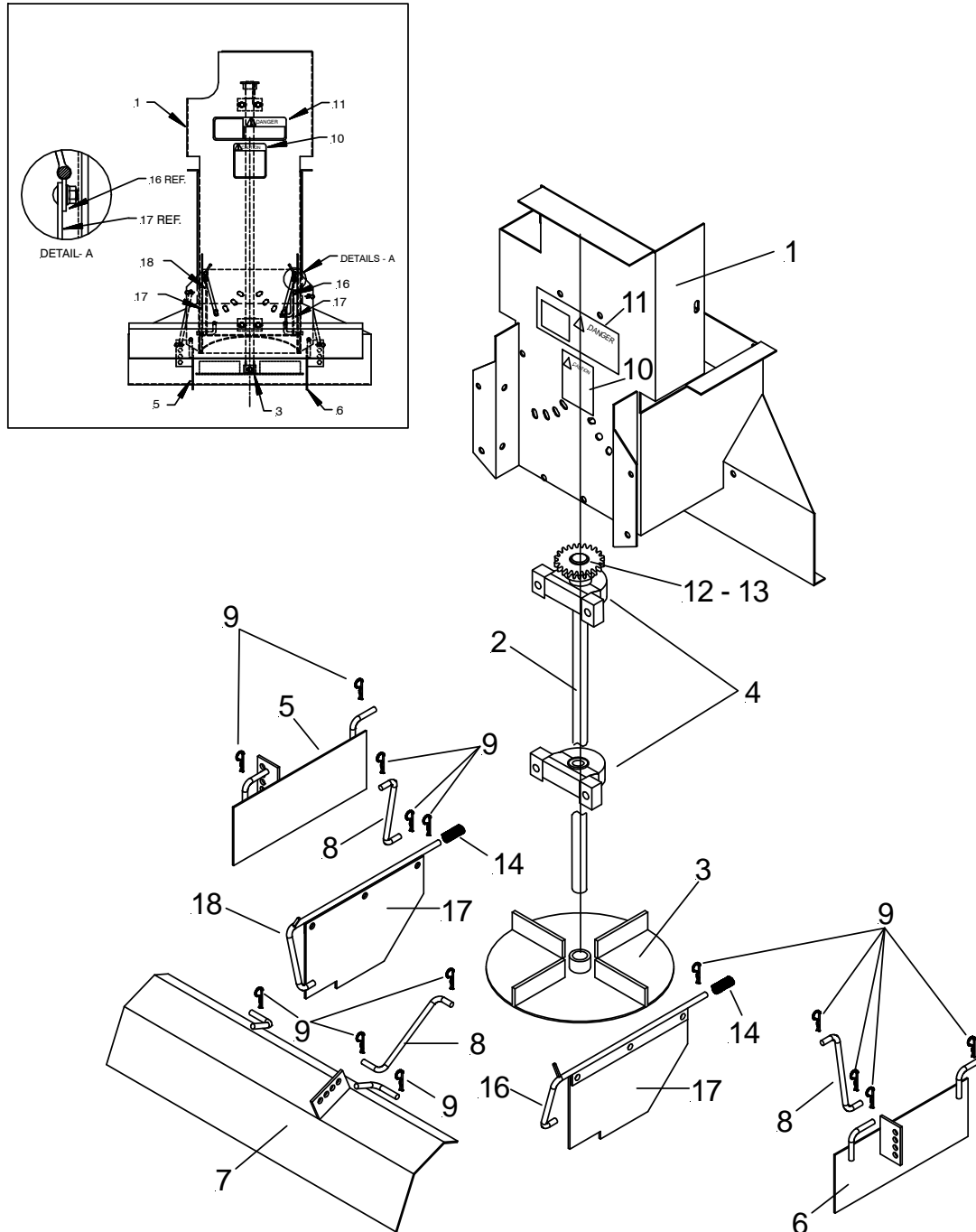
PARTS LIST FOR SPINNER ASSEMBLY
SHORT - PARTS ONLY
 (ORIGINAL VERSION OF STANDARD)

<u>ITEM</u>	<u>PART. NO.</u>	<u>QTY.</u>	<u>DESCRIPTION</u>
	62506	1	Short (SS) Spinner Assy.
1	62779	1	• Weld, Spinner Frame (Stainless Steel)
2	61151	1	• Shaft, Spinner, 24" Long
3	62146	1	• Disc, Poly Spinner
4	62356	2	• Bearing
5	63819	1	• Weld, L. H. Baffle (Stainless Steel)
6	63818	1	• Weld, R. H. Baffle (Stainless Steel)
7	63820	1	• Weld, Rear Baffle (Stainless Steel)
8	62313	3	• Link Bar, S3
9	61232	11	• Hairpin Keeper
10	62007	1	• Decal, Caution
11	62006	1	• Decal, Danger
12	61196	1	• Key, 1/4" Sq. x 1"
13	63685	1	• Sprocket Drive 40 B 13 x 1"
14	62358	2	• Spring, Compression
15	62780	1	• Hardware Bag
16	63825	1	• Weld, R. H. Handle (Stainless Steel)
17	63349	2	• Plate, Baffle (Stainless Steel)
18	63826	1	• Weld, L. H. Handle (Stainless Steel)

PARTS LIST FOR EXTENDED SPINNER ASSEMBLY INTERMEDIATE - STANDARD (NEW)

<u>ITEM</u>	<u>PART NUMBER</u>	<u>QTY.</u>	<u>DESCRIPTION</u>
	63816	1	Standard (SS) Spinner Assy.
1	63829	1	• Weld, Spinner Frame (Stainless Steel)
2	62933	1	• Shaft, Spinner, 30" Long
3	62146	1	• Disc, Poly Spinner
4	62356	2	• Bearing
5	63819	1	• Weld, L. H. Baffle (Stainless Steel)
6	63818	1	• Weld, R. H. Baffle (Stainless Steel)
7	63820	1	• Weld, Rear Baffle (Stainless Steel)
8	62313	3	• Link Bar, S3
9	61232	11	• Hairpin Keeper
10	62007	1	• Decal, Caution
11	62006	1	• Decal, Danger
12	61196	1	• Key, 1/4" Sq. x 1"
13	63685	1	• Sprocket Drive 40 B 13 x 1"
14	62358	2	• Spring, Compression
15	62780	1	• Hardware Bag
16	63825	1	• Weld, R. H. Handle (Stainless Steel)
17	63349	2	• Plate, Baffle (Stainless Steel)
18	63826	1	• Weld, L. H. Handle (Stainless Steel)

EXTENDED SPINNER ASSEMBLY



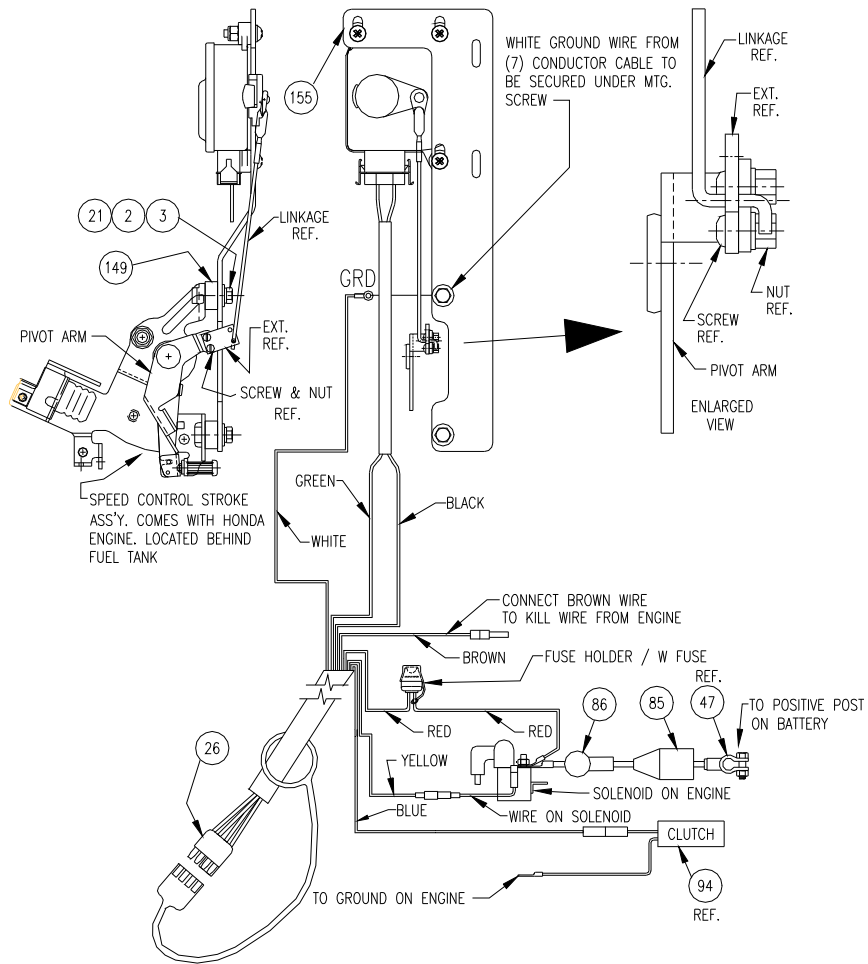
PARTS LIST FOR EXTENDED SPINNER ASSEMBLY

EXTENDED - PARTS ONLY

<u>ITEM</u>	<u>PART NUMBER</u>	<u>QTY.</u>	<u>DESCRIPTION</u>
	62507	1	Extended (SS) Spinner Assy.
1	62793	1	• Weld, Spinner Frame (Stainless Steel)
2	62057	1	• Shaft, Spinner, 36" Long
3	62146	1	• Disc, Poly Spinner
4	62356	2	• Bearing
5	63819	1	• Weld, L. H. Baffle (Stainless Steel)
6	63818	1	• Weld, R. H. Baffle (Stainless Steel)
7	63820	1	• Weld, Rear Baffle (Stainless Steel)
8	62313	3	• Link Bar, S3
9	61232	12	• Hairpin Keeper
10	62007	1	• Decal, Caution
11	62006	1	• Decal, Danger
12	61196	1	• Key, 1/4" Sq. x 1"
13	63685	1	• Sprocket Drive 40 B 13 x 1"
14	62358	2	• Spring, Compression
15	62780	1	• Hardware Bag
16	63825	1	• Weld, R. H. Handle (Stainless Steel)
17	63349	2	• Plate, Baffle (Stainless Steel)
18	63826	1	• Weld, L. H. Handle (Stainless Steel)

ELECTRIC CONTROLS PARTS & SCHEMATIC

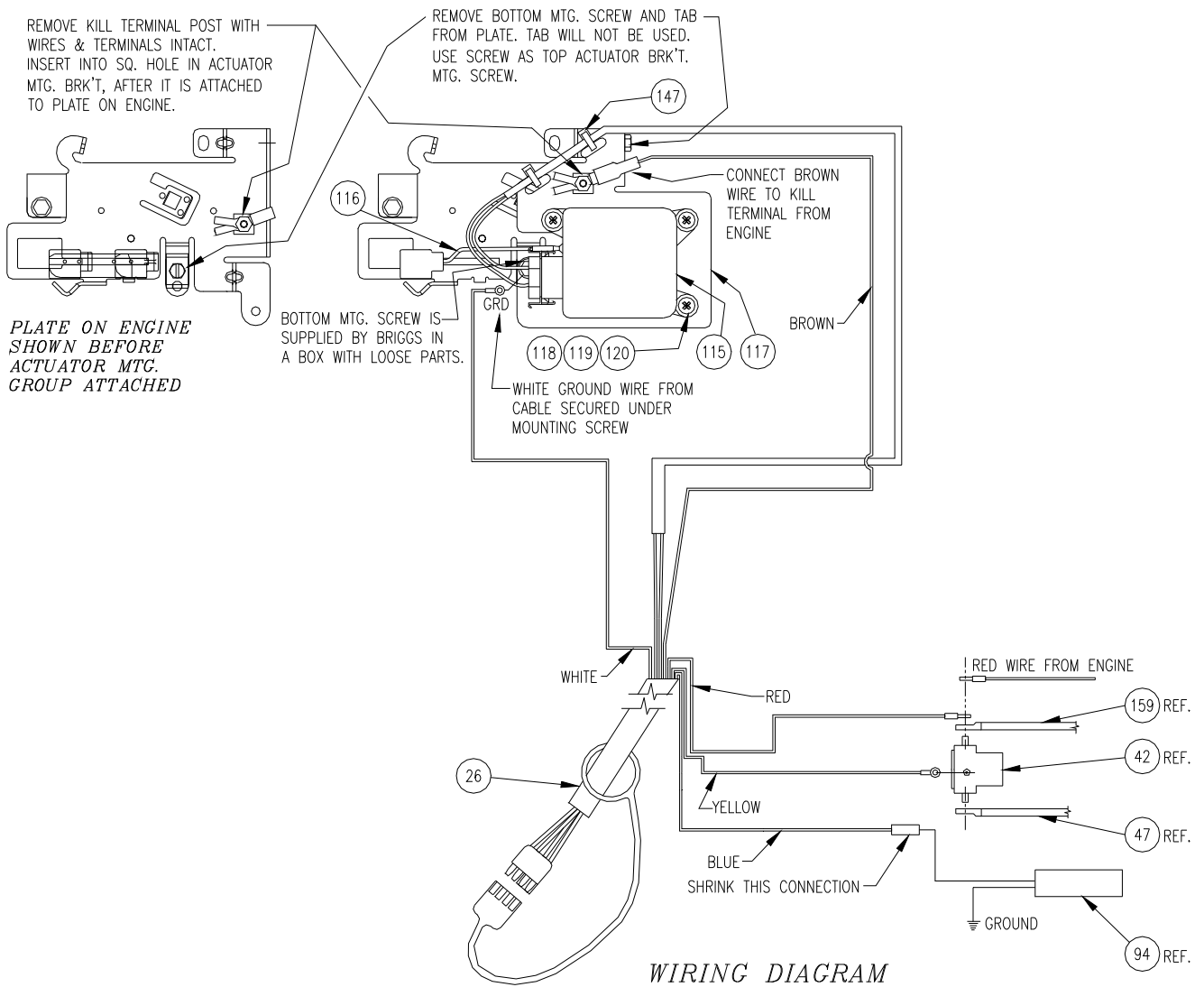
HONDA ACTUATOR



<u>ITEM</u>	<u>PART NUMBER</u>	<u>QTY.</u>	<u>DESCRIPTION</u>
	62721	1	Actuator
2	62801	2	Flatwasher, #10 SS
3	62800	2	Lockwasher, #10, SS
21	62799	2	Bolt, M5 X 25 HH, SS
26	63166	1	Cable, Control - Spreader
N/S	63167	1	Cable, Control - Truck
47	62040	1	Cable, Battery - Black
	63130	1	Cable, Battery - Red
85	63125	1	Boot, Battery Cable Straight
86	62106	1	Boot, Alternator Cable
94	63168	1	Clutch, Electric
149	62339	2	Bushing, Spacer, SS
155	62703	1	Throttle Plate

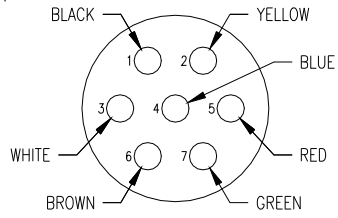
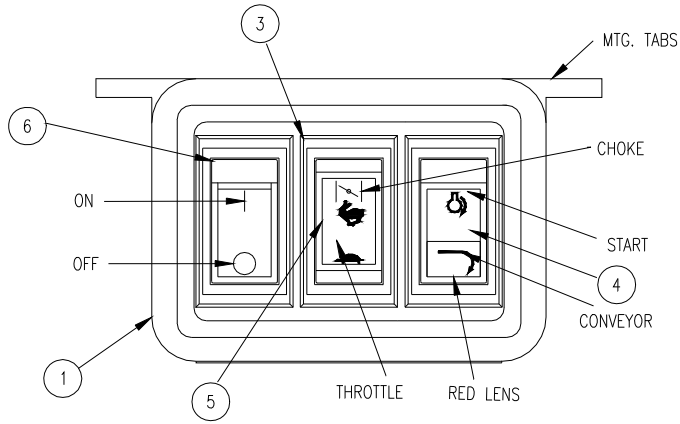
ELECTRIC CONTROLS PARTS & SCHEMATIC

BRIGGS & STRATTON ACTUATOR

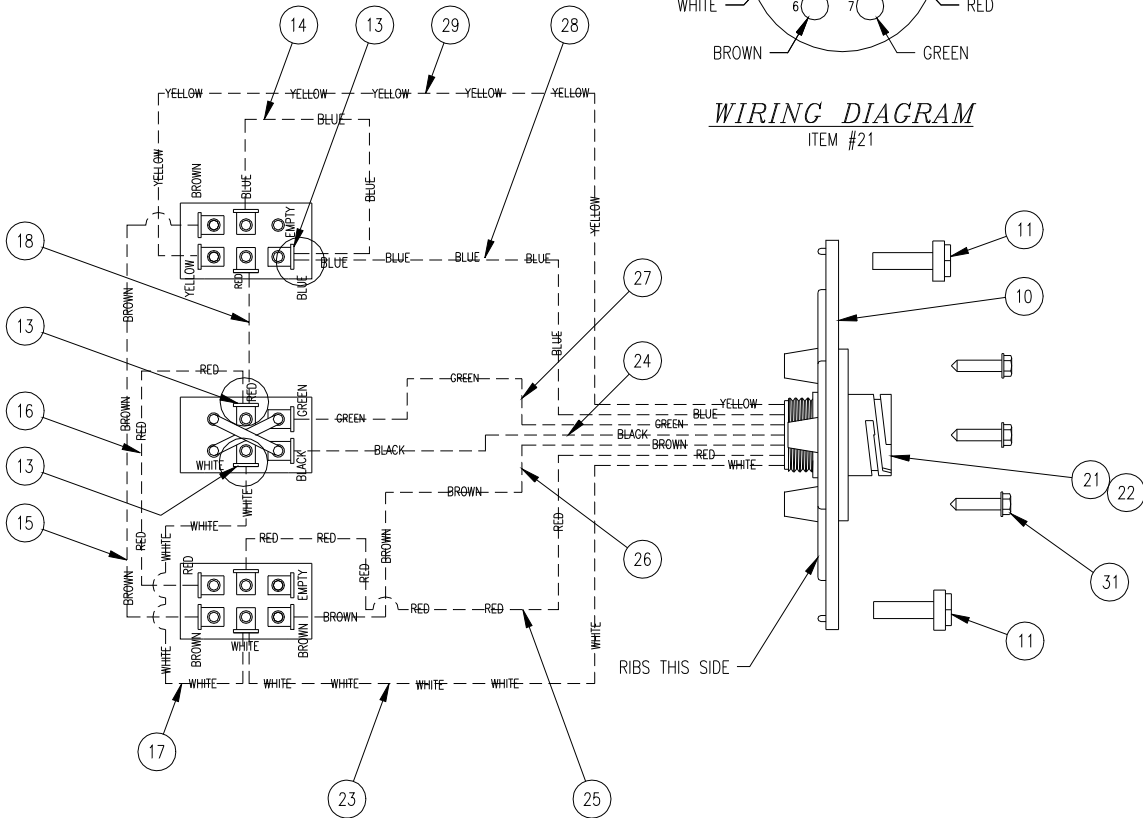


<u>ITEM</u>	<u>PART NUMBER</u>	<u>QTY.</u>	<u>DESCRIPTION</u>
	63165	1	Actuator
26	63166	1	Cable, Control - Spreader
N/S	63167	1	Cable, Control - Truck
42	61179	1	Solenoid, Grounded
47	61213	1	Cable, Starter
94	63168	1	Clutch, Electric
115	63164	1	Motor, Actuator
116	62648	1	Linkage, Throttle
117	62645	1	Bracket, Actuator (Briggs & Stratton)
118	62649	3	Screw, #8-32 X 3/4" Phillips Round, SS
119	62651	3	Flatwasher, #8, SS
120	62650	3	Locknut, #8-32 Nylon Insert, SS
147	62183	2	Tie, Nylon
159	62040	1	Cable, Battery - Black
	63130	1	Cable, Battery - Red

CONTROL BOX (OPTIONAL)



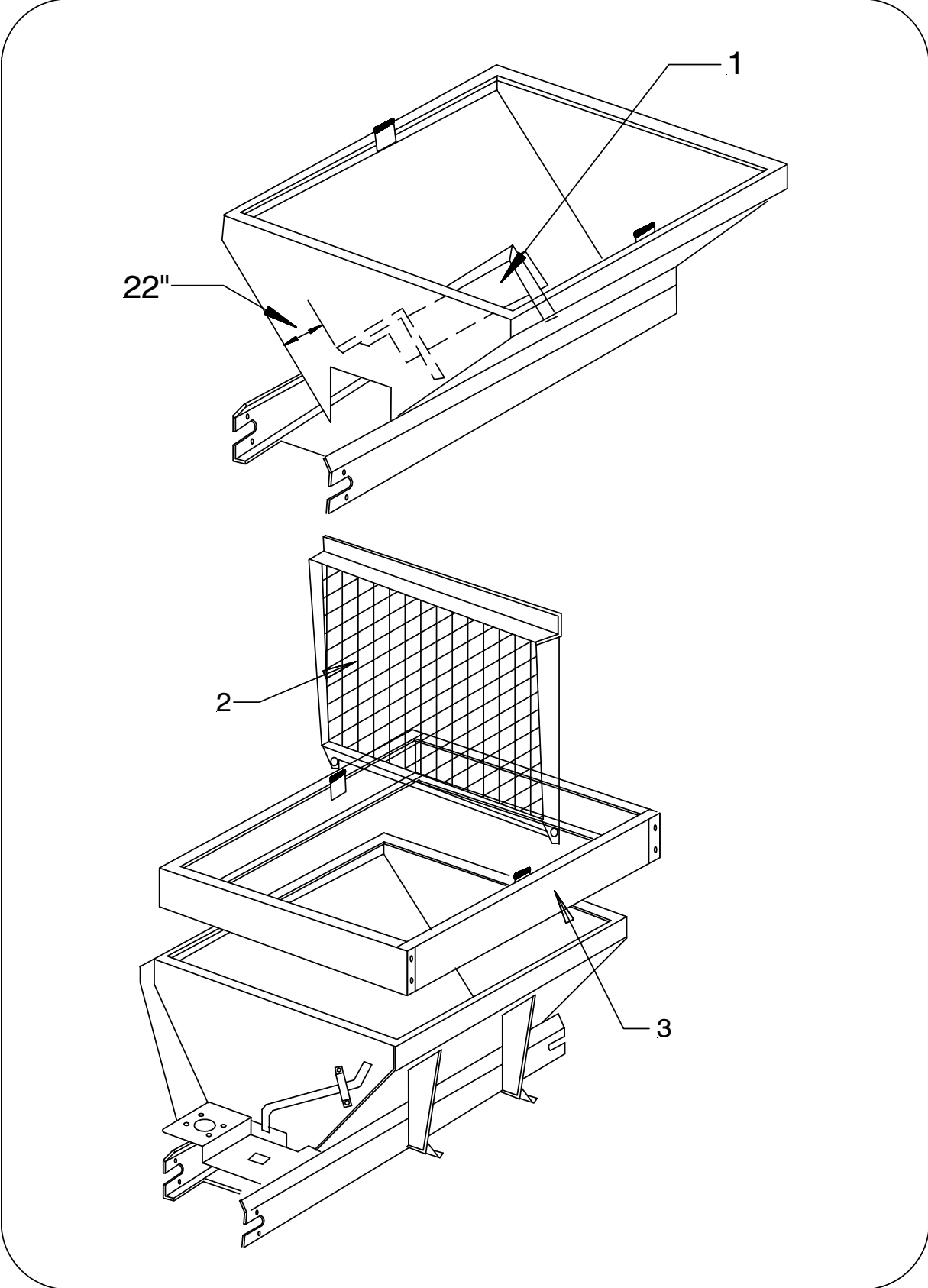
WIRING DIAGRAM
ITEM #21



PARTS LIST FOR CONTROL PANEL ASSEMBLY (OPTIONAL)

(62334)

<u>ITEM</u>	<u>PART NUMBER</u>	<u>QTY.</u>	<u>DESCRIPTION</u>
1	62150	1	Enclosure
3	62670	2	Panel
4	62153	1	Switch, START/CONV
5	62154	1	Switch, Choke HI/LO
6	62155	1	Switch, ON/OFF
10	62158	1	Enclosure, Back Panel
11	62159	4	Screw, #8 x 1/2 SM SLT HWH ZP
13	62156	3	Conn., double M/FM
14	62161	1	Jump Wire, 14 Ga., BLUE 3"
15	62162	1	Jump Wire, 14 Ga., BROWN 5.5"
16	62163	1	Jump Wire, 14 Ga., RED 4"
17	62164	1	Jump Wire, 14 GA., BROWN 3"
18	62165	1	Jump Wire, 14 Ga., RED 3"
21	62671	1	Receptical, Sq. Flange
22	62672	7	Connector, Socket, 14 Ga., Tin
23	62673	.333	Wire, 14 Ga., White Insulated
24	62674	.333	Wire, 14 Ga., Black Insulated
25	62675	.333	Wire, 14 Ga., Red Insulated
26	62676	.333	Wire, 14 Ga., Brown Insulated
27	62677	.333	Wire, 14 Ga., Green Insulated
28	62678	.333	Wire, 14 Ga., Blue Insulated
29	62679	.333	Wire, 14 Ga., Yellow Insulated
30	62680	7	Terminal Insulated Disc. Female
31	63120	4	Screw, #4 Self Tapping Slotted Hex Washer Head



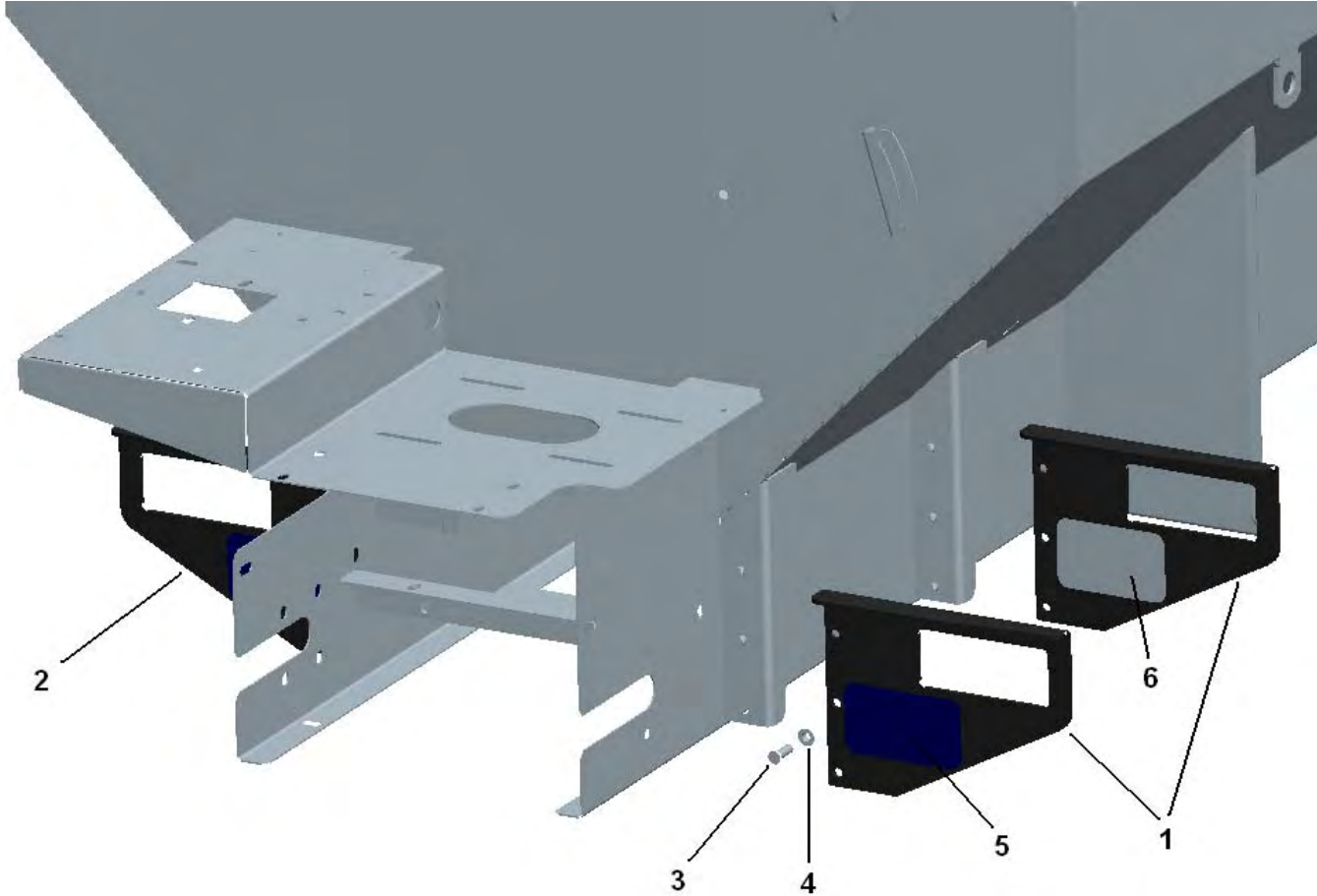
AUXILARY COMPONENTS

<u>ITEM</u>	<u>PART NUMBER</u>	<u>QTY.</u>	<u>DESCRIPTION</u>
1	63184	1	Inverted Vee 8 ft. (Carbon Steel)
2	63201	1	Weldment, Screen (8 Ft.) One Piece Screen
3	62145	1	6" Extension (Stainless Steel - 8 Ft. Unit) Kit

PARTS LIST FOR SHIPPING CARTON (63302)

<u>ITEM</u>	<u>PART NUMBER</u>	<u>QTY.</u>	<u>DESCRIPTION</u>
1	63844	1	Chain, Roller
2	63835	1	Bag, Hardware / with Wireless Remote
3	62738	1	Cable, Stop Lamp
4	62313	1	Bar, Link

PARTS LIST FOR REAR FORKLIFT ASSEMBLY



<u>Item</u>	<u>Part Number</u>	<u>Qty.</u>	<u>Description</u>
1	63839	2	Bracket, Fork Front LH, CS
2	63841	2	Bracket, Fork Front RH, CS
3	62697	12	Bolt, 3/8-16 X 1, HH
4	62743	12	Nut, 3/8-16 Hex Flange
5	63847	2	Decal, Caution Unloaded
6	63848	2	Decal, Caution 4" Min

Magnum Spreaders Wireless Controller

The wireless controller is a compact unit with two parts. One part is the **Base Unit (Receiver)** and the other part is the **Keyfob (Transmitter)**. The Keyfob is used to send a corresponding signal to the Base Unit to act as a remote switching device.

Set-up and Operation

The Magnum Wireless Controller comes factory programmed. That means matching the Base Unit to the Keyfob has been done by Magnum Spreaders. This gives a matched (1 of 16 million combinations @ 418MHz) interface between the Keyfob and Base Unit. See (Fig. 1 & 2) for Keyfob button assignments. On the 8 button Magnum Spreaders Keyfob, all (8) buttons are used when programming. When programmed, only (5) buttons are functional (Buttons #3 - #7).

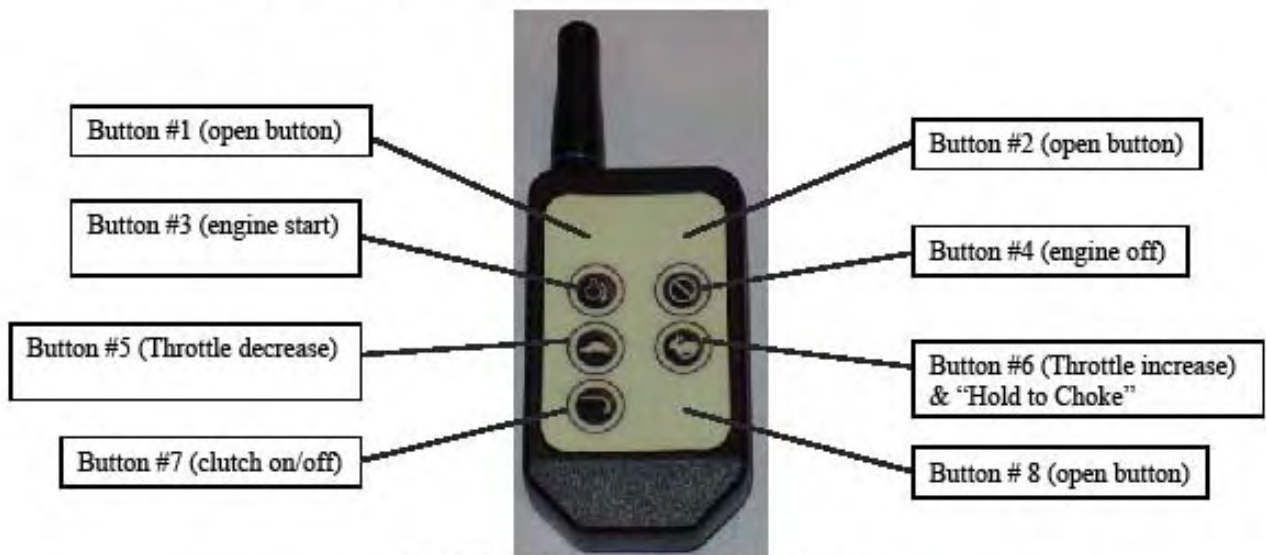


Fig. 1: Keyfob Front Button Assignments



Fig. 2: Keyfob Back Button Assignments

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Fig. 3: Base Unit layout (Figure shown without Base Unit Cover)

Programming the Keyfob and the Base Unit:

Tools needed: A small "phillips" screwdriver and a small diameter pin (paper clip).

Please follow these steps:

1. Remove (4) screws and cover on Base Unit.
2. Power-up the Base Unit. (Connect a power source to the Male Connector).
3. On the backside of the Keyfob depress the "**ADD**" button (See Fig. 2) using a small pin or paper clip. If the Keyfob is working properly, the "blue" LED will blink for approximately 17 seconds.
4. Flip the Keyfob over and press all (8) buttons (see Fig. 1). There is no certain order to press the buttons. Press all buttons once. Perform this step before the 17 seconds are up. The Keyfob is now programmed.
5. On the Base Unit (see Fig. 3), press the black "**Learn**" button. The "red" LED will begin to blink, for approximately 17 seconds.
6. Again, on the Keyfob press all (8) buttons in no certain order. Press all buttons once. Perform this step before the 17 seconds are up. The Keyfob is now programmed.
7. Again, on the Base Unit, push the "black" "**Learn**" button. The "red" LED will stop blinking. The Base Unit is now uniquely addressed to the Keyfob.
8. Check your Keyfob's (5) functional buttons (#3 - #7) to see if they are working. If Keyfob buttons are not working, please repeat steps 3 - 8.
9. When Keyfob buttons are functioning properly, Assemble Cover back on Base Unit with the (4) screws.

Your Magnum Wireless Controller is now ready to use!

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Battery Replacement

The Keyfob uses a standard CR2032 lithium button cell battery. In normal use it will provide 1 to 2 years of operation. To replace the Keyfob battery, gently press and slide the battery cover off. Remove the battery by sliding it out from underneath the retainer (see Fig. 4). Observe the battery polarity when replacing (“+” showing face up).

Note: If the battery loses power or is removed – the Keyfob and Base Unit will need to be reprogrammed (follow steps 3 – 8 for **Programming the Keyfob and the Base Unit**).

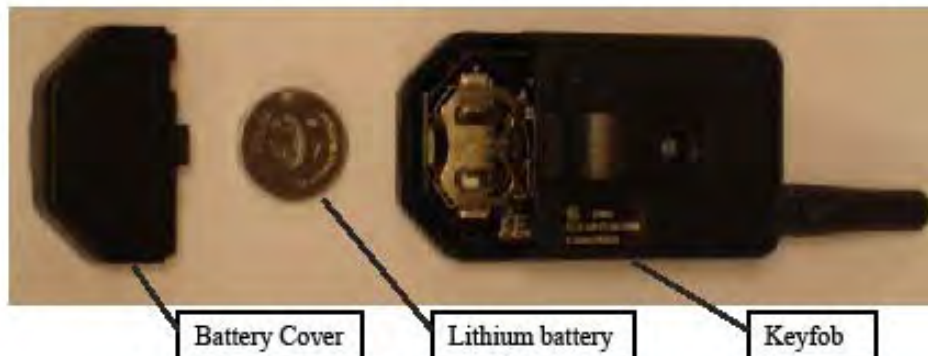


Fig. 4: Back of Keyfob with back cover and battery removed

Other Considerations

Only one transmitter at a time can be activated within a reception area. Only one carrier of a particular frequency may occupy the same airspace at a given time. This means that if two transmitters are activated in the same area at the same time the signals will interfere and the decoder on the receiver will not see a valid transmission and the wireless controller will not function. If the range of the transmitter needs to be increased, contact your supplier and ask about antenna options of up to 1000ft.

Also Magnum Spreaders has no control over the intended usage of this product. Because of that Magnum Spreaders offers no written or expressed liability as to how this product is used. Magnum Spreaders recommends that these units are intended for **OFF ROAD USE ONLY!**

TROUBLE SHOOTING

Follow these steps:

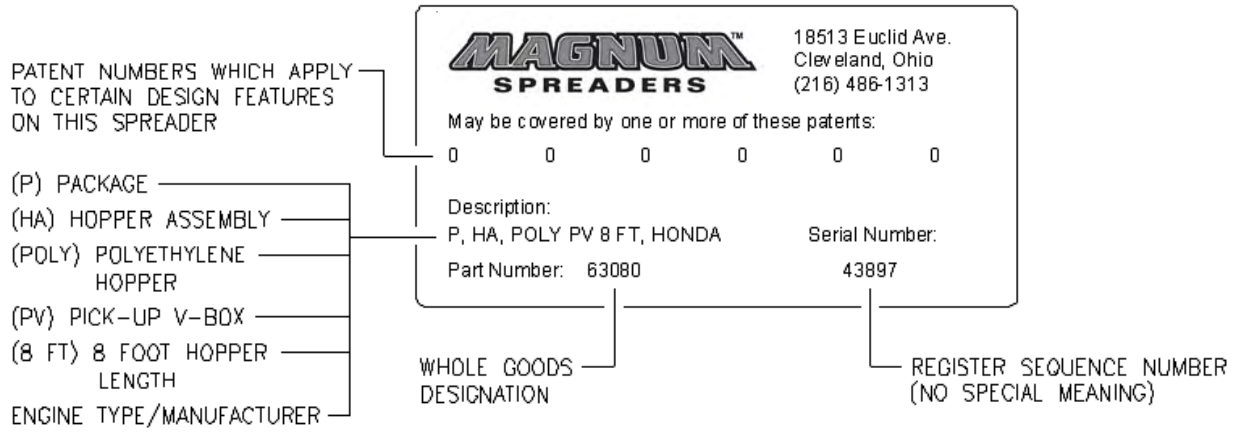
- When the base unit is powered up, make sure the “red” LED comes on when the Keyfob buttons are depressed. If the “red” LED does not come on, the Base Unit is not getting a signal from the Keyfob.. If the battery in the Keyfob is more than 2 years old check battery voltage with a meter or replace battery as needed.
- After completing the above steps and the unit still will not function, follow the procedure, **Programming the Keyfob and the Base Unit**.
- If the unit still will not operate. Check connections to the component that the unit is trying to operate using a voltmeter.

For further technical assistance please contact Magnum Spreader at (216)486-1313 or visit us at www.magnumspreaders.com.

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NAME PLATE INFORMATION

EXPLANATION OF SERIAL NUMBER DECAL



TWO YEAR WARRANTY

TWO YEAR WARRANTY

Magnum Spreader promises to the consumer to repair, or at our option to replace any part of this Magnum Spreader, accessory (other than noted below) except expendable parts such as pins, Spreader fins, and other normal wear items, which proves to be defective in workmanship or material under normal use for a period of two year's from the date of delivery to the original purchaser. During the two year's, Magnum Spreader will provide, through its Distributor / Sub-Distributor network, all labor or parts necessary to correct such defects free of charge. Faulty parts will be repaired or replaced by the Distributor / Sub-Distributor where that particular piece of equipment was purchased. Any cost incurred in returning the product to the Distributor / Sub-Distributor is the responsibility of the consumer.

EXCLUSIONS

IN NO EVENT SHALL MAGNUM SPREADER BE LIABLE FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR FOR DAMAGES RESULTING FROM LACK OF NECESSARY MAINTENANCE, FROM MISUSE, ABUSE, ACTS OF GOD, ALTERATION OF ANY PRODUCT, OR FROM USE OF PARTS NOT SUPPLIED BY MAGNUM SPREADER. USE OF THE MAGNUM SPREADER FOR ANY PURPOSE OTHER THAN SPREADING MATERIALS AS INTENDED BY MAGNUM SPREADER, IS ONE EXAMPLE OF AN ABUSE AND MISUSE OF THE PRODUCT.

WARRANTY SERVICE

In order to obtain service under this warranty, the consumer must return this product to the Distributor / Sub-Distributor from whom the product was purchased or to any authorized Magnum Spreader Distributor / Sub-Distributor, transportation and freight charges prepaid. Only Magnum Spreader Distributors / Sub-Distributors are authorized to perform the obligations under these warranties. For the address and telephone number of the Distributor / Sub-Distributor nearest you, check the telephone directory or you may write to the warrantor at the address below.

GENERAL

It is the responsibility of the consumer to establish the warranty period by verifying the original delivery date. A bill of sale, canceled check or some other appropriate payment record may be kept for that purpose. For this warranty to be effective, the consumer must Register the product on-line at www.magnumspreaders.com. No person is authorized to change this warranty or to create any warranty other than that set forth herein. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

In order to validate this warranty, please go to our web site www.magnumspreaders.com to register your new Magnum Spreader.

Magnum Spreader reserves the right, under its continuing product improvement program, to change construction or design details, specifications and prices without notice or without incurring any obligation.

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**IMPORTANT
INFORMATION
ENCLOSED**

