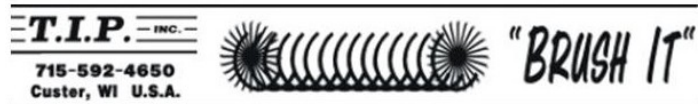




1619 COUNTY K
CUSTER, WI 54423
PHONE 715-592-4650 · FAX 715-592-5063
E-Mail · tip@tipinc.net
www.tipinc.net



PULL-TYPE POWERED BRUSH

**OPERATOR'S INSTRUCTIONS
AND PARTS MANUAL**

=T.I.P. Inc.=

Brush-It

Congratulations on your purchase of the T.I.P. Brush-It powered brush!

You can rest assured that you have one of the highest quality multi-purpose brushes on the market today. With proper care and maintenance, your Brush-It will provide you with years of reliable service. If you have any questions about the Brush-It, or any of our other turf care products, feel free to call us or drop us a line. We would be delighted to serve you in the future. Thank you for your patronage.

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=T.I.P. Inc.=
Limited Warranty

T.I.P. Inc. warrants that the equipment it manufactures will be free from defects in materials and workmanship for a period of one year from delivery date. This warranty is extended to the Original Purchaser only, and is non-transferrable.

Should a defect in materials or workmanship be experienced within the warranty period, T.I.P. Inc. shall, at its discretion, furnish F.O.B Custer, WI, new or remanufactured parts to replace the non-conforming parts. T.I.P. Inc. shall not cover any labor costs incurred by the purchaser to replace said parts.

This warranty is limited to new equipment, parts or accessories that are manufactured by T.I.P. Inc., provided that the equipment is used and maintained according to the instructions in the manual, and the Original Purchaser has completed, signed and returned the enclosed Warranty Registration form to T.I.P. Inc. within 30 days after the delivery of said equipment. This warranty does not apply to damage or deterioration to the equipment resulting from, but not limited to; natural wear and tear, abuse of goods, presence of abrasives, chemical action, improper installation, misuse, vandalism, or acts of God. This warranty does not apply to goods manufactured by others, beyond the warranties stated by the manufacturers for those goods.

The limited warranty expressed hereunder, is exclusive, and T.I.P. Inc. makes no other representations, warranties, or guarantees, neither expressed nor implied, as to merchantability or the fitness of said equipment for any particular use or purpose, or that the equipment or installation of equipment when placed into operation will comply with applicable national, state, and local health and safety laws. T.I.P. Inc. shall not be liable for any consequential or indirect damages including, but not limited to, loss of anticipated profits or production, increase of cost of operation, loss due to spoilage of material, damage caused directly or indirectly to other property or goods, or penalties or fines arising from non-compliance.

SAFETY

BRUSH-IT Powered Brush

UNDERSTAND AND FOLLOW SAFETY INFORMATION

ALL OPERATORS should read and understand all safety information and operating instructions for the Brush-It, and learn how to use the controls properly. Do Not let anyone operate without proper instruction.

Make sure that ALL OPERATORS can recognize and understand all safety warning labels on the machine. Keep all safety labels in good condition, and replace those that are missing or damaged. Replacement safety labels are available from your dealer.

PROPER SETUP

Make sure that machine is properly and securely coupled to the tow vehicle before operation. The engine should never be started unless machine is hooked to tow vehicle. Verify that the 12v electrical connection is hooked securely and in the proper polarization. Visually inspect the location of all electrical lines on machine to avoid pinching in metal parts or contact with drive belt or pulleys during operation.

DURING OPERATION

Operate the Brush-It only when all safety guards are in place. Before moving machine, check to make sure that no one is in the immediate vicinity. Never allow anyone to ride machine at any time.

Wear close fitting clothing and safety gear appropriate for the operating conditions. Be aware that rocks or other debris could fly out from under the machine.

The operation of the machine requires the full attention of the operator. Do not wear radio or other music headphones while operating this machine.

Keep hands and feet away from rotating brush and driveline components during operation.

SAFE MAINTENANCE

Never lubricate, service or adjust machine while it is running. Keep hands, feet and clothing from power driven components. Disengage all power from machine before servicing. Allow engine components to cool. If machine is still connected to tow vehicle, be sure tow vehicle is turned off and secured against rolling.

Securely support all parts of machine that must be raised for service work. Keep machine in good working order by replacing worn or broken parts. Be sure to remove all excess grease, oil and dirt.

Properly dispose of all waste materials.

TRANSPORTATION

The Brush-It is designed for off road use only, and should not be towed on public roadways. Maximum tow speed for machine is 15mph. If it becomes necessary to tow machine on roadways, be sure to equip machine with proper SMV signage and flashing warning lights as required by your area.

SET-UP

BRUSH-IT Powered Brush

CONNECTION TO TOW VEHICLE

If your Brush-It came delivered on a pallet, first remove machine from pallet. Connect the pin-type hitch to your tow vehicle using a pin that is the appropriate diameter, and secure to ensure pin does not come out during operation.

ELECTRICAL CONNECTION

The Brush-It utilizes the 12v electrical supply from the tow vehicle to operate the electric clutch and actuator lift. Unroll cord and switch pendant. Locate switch pendant near operator on tow vehicle, and secure in place. Connect the alligator clips from the machine to the battery of the tow vehicle, being sure to connect the red clip to the positive side of the battery, and the black to the negative. Be sure that clips and wires are properly secured so they will not vibrate off during operation.

CAUTION!

Avoid direct contact with the battery terminals and the un-insulated portion of the alligator clips. Electrical shock could result.

BRUSH ANGLE ADJUSTMENT

Your Brush-It powered brush has the option of either operating with the brush perpendicular to its travel, or with the brush angled to the left or right. To change the angle of the brush, remove the orange positioning pin located behind the pivot bolt immediately behind the front wheels. The brush can then be angled to the left or the right. Re-align the positioning pin hole, and insert the pin.

BRUSH HEIGHT ADJUSTMENT

Properly adjusted brush height will provide you with the best sweeping action and the longest bristle life. It is necessary to do this adjustment before using the Brush-It for the first time, and periodically as routine maintenance.

The brushes, when properly adjusted, should make a light sweeping pattern 2 to 3 inches wide and uniform along the brush center line. (see Fig. 2) Too much pressure on the brushes will cause excessive wear and reduce sweeping efficiency.

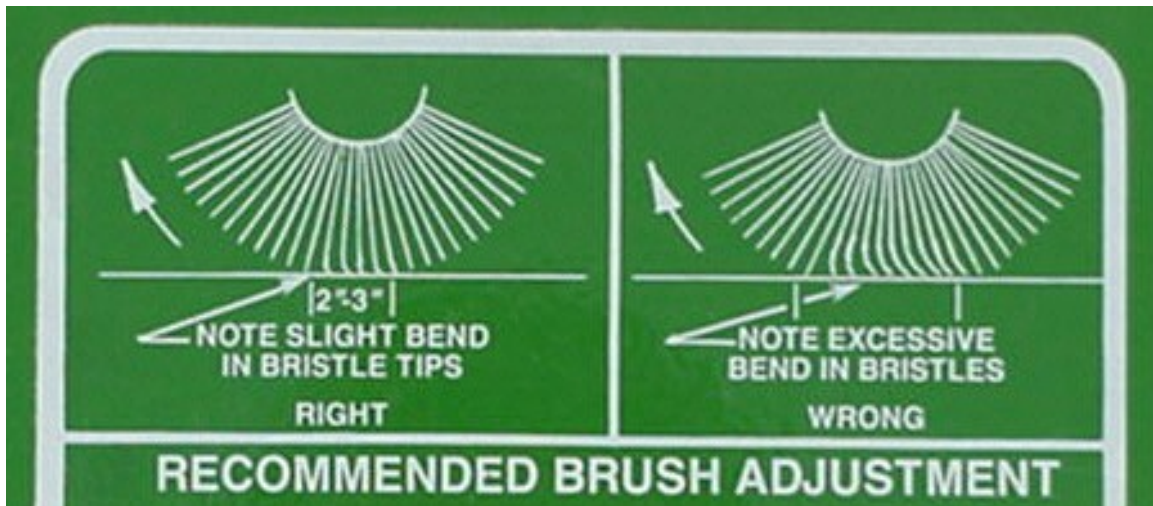


Fig.2

To adjust the brush height, first take the Brush-It to a flat, level surface. Once there, loosen the set collar that is on the actuator stem. Next, use the switch pendant to raise or lower the machine until the brush is at the proper height. After that, raise the set collar until it is in contact with the actuator body, and tighten in place.

CAUTION!

The actuator on the Brush-It will retract the caster assembly beyond the mechanical limit of the Brush-It frame. DO NOT under any circumstance retract the actuator beyond the frame's mechanical limit. Machine damage may result.

CONNECTING MULTIPLE BRUSHES TOGETHER.

Sweeping efficiency can be increased by connecting multiple Brush-It machines in a cascading pattern. To do this, first install the secondary draw bar (sold separately) to the lead machine by clamping it to the square bar on the caster wheel assembly and securing it with the retainer bolts and nuts. The secondary draw bar can be mounted to the left or to the right. Attach the following Brush-It to the secondary draw bar.

Run both sets of controls and power leads to the tow vehicle. Secure all cords and wires to prevent wire damage.

ENGINE/DRIVE TRAIN

The engine should be checked for proper lubrication levels before first use according to the engine manufacturer's Owner's Manual.

Fill fuel tank with regular unleaded gasoline.

Remove the side shield and check v-belt for proper tension. When pressed in the center of the belt, there should be ½ to 1" of travel. If the belt needs to be tightened, loosen the idler bracket bolt and tighten belt by sliding the idler further into the belt. Retighten idler bracket bolt and re-install the side shield.

OPERATION

BRUSH-IT Powered Brush

Review and follow all safety information before operating the Brush-It. Be sure all Set-Up procedures have been completed.

STARTING THE MACHINE

Verify that electrical connections are made with the tow vehicle and that the hitch pin is secured in place. If multiple brushes are hooked together, make sure all electrical connections are secure. Before starting engine, be sure electric clutch switch is in the "OFF" (disengaged) position. Check to make sure the brush is in the "up" position (off the ground).

Start engine(s) according to the engine operator's manual.

BRUSH OPERATION

After you reach the location where the sweeping is to be done, start the brushes rotating by turning on the electric clutch toggle switch. The clutch may be engaged at any engine RPM. Lower the brush all the way to its preset limit, and proceed with the brushing. When brushing is complete, raise the brush off of the ground and move the clutch toggle switch to the Off position to disengage power to the brushes. The brushes will free-wheel to a stop.

CAUTION! To avoid possible damage to golf course greens, do not engage or disengage brushes while on greens. Whenever possible, drive across greens in a straight line only.

When sweeping is complete, or when traveling between areas to sweep, turn off engine by setting the Engine Run switch to the "Off" position. Make sure electric clutch is disengaged after tow vehicle engine has been turned off. Electric clutch will not automatically disengage with engine shut-off. An engaged electric clutch will draw moderate amounts of power, and will drain a battery in short order if tow vehicle engine is not running.

MAINTENANCE

BRUSH-IT Pull-Type Powered Brush

CAUTION! Be sure to read and understand the SAFETY section of this manual before performing any maintenance on the machine. Be sure motor is off and all power is disconnected before performing maintenance.

Be sure to clean off the Brush-It after every use.

LUBRICATION

There are several different grease points on the machine that need to be lubricated. Each rear wheel has a grease fitting on the caster shank. Grease casters every 50 hours.

The front and rear wheels each have a grease fitting on the hub. Grease the wheels every 50 hours. Be sure to block the machine in place to prevent injury.

The brush assembly bearings are mounted on the inside of each end of the machine on the ends of the brush shaft. Likewise, there is also one bearing assembly on the engine jack shaft next to the electric clutch. Grease these bearings every 50 hours.

Also, between the engine and the jack shaft is a universal joint. Grease the cross in the universal joint every 100 hours.

Check engine oil and gearbox lube on the Honda engine according to the manufacturer's maintenance schedule.

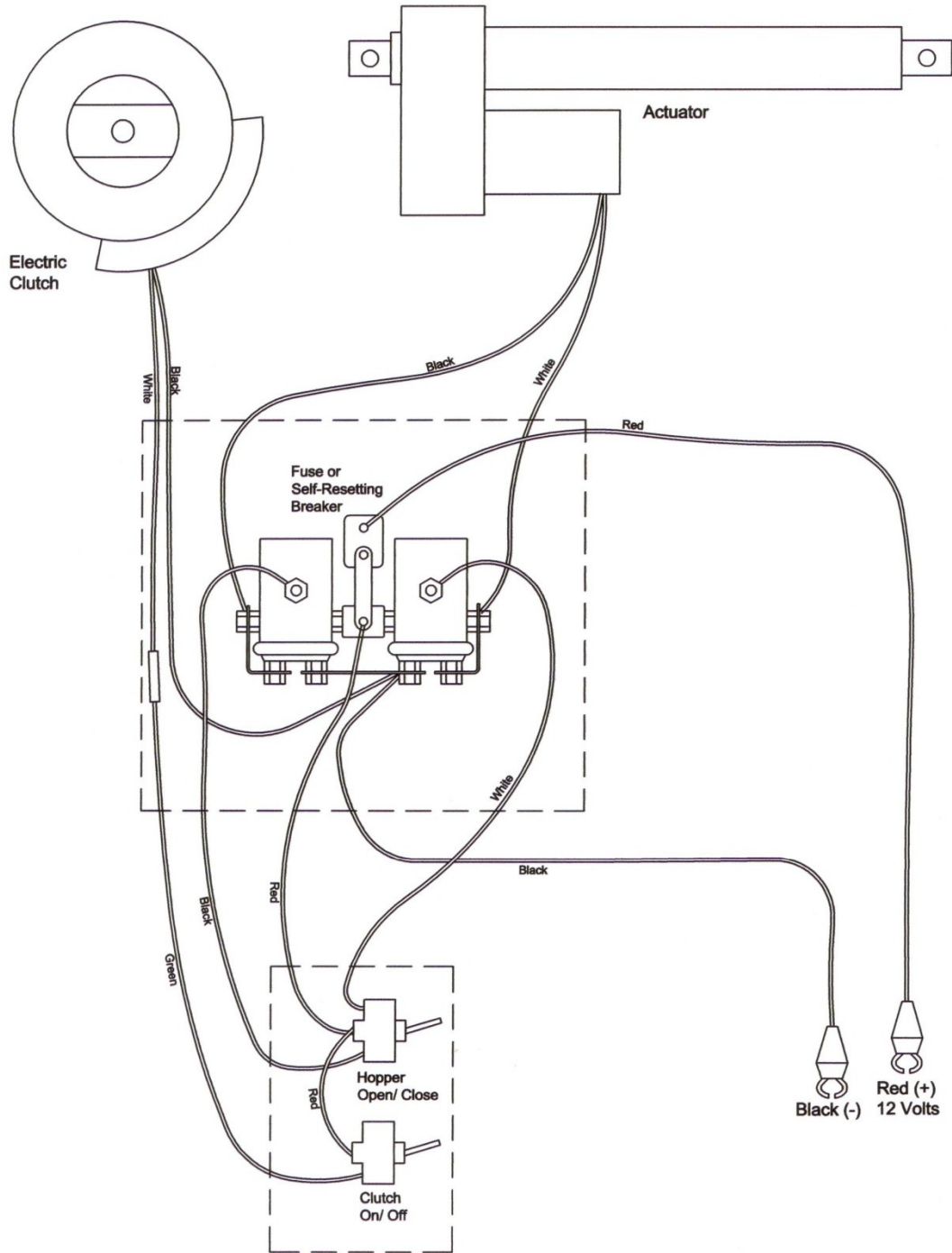
INSPECTION

An inspection of the entire machine should be done when lubricating the machine. This inspection includes checking that all bolts are tight, all wires and cords are in good condition and properly located, and checking operation of the electric clutch to make sure that it engages positively. Inspect tires for correct inflation and for wear. Check that all safety and warning decals are in good shape. Replace if necessary.

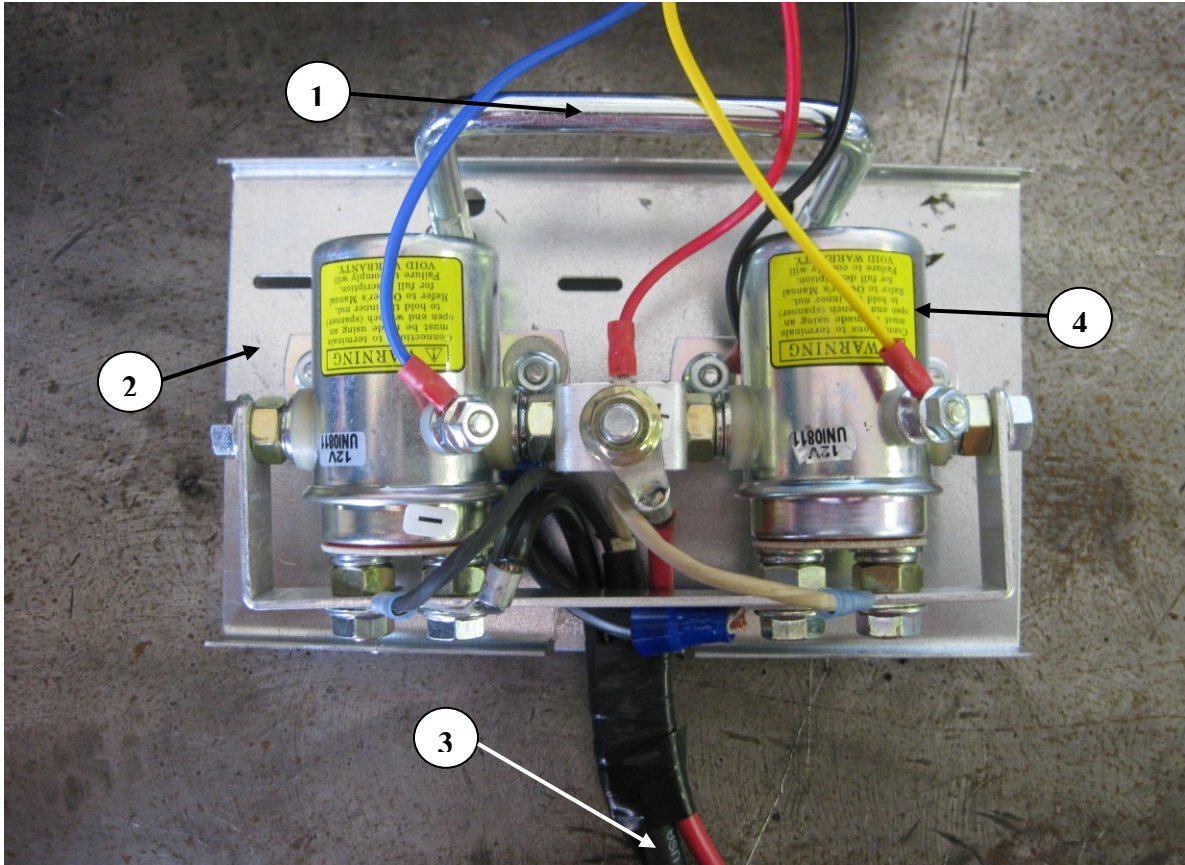
Drive belt should also be checked for proper tension and for wear. Adjust or replace if necessary. Do not use belt dressing or over-tighten.

Inspect the spiral brush and the front strip brush for excessive wear and missing bristles after every 25 hours of use. Replace if necessary.

Wiring Diagram #1

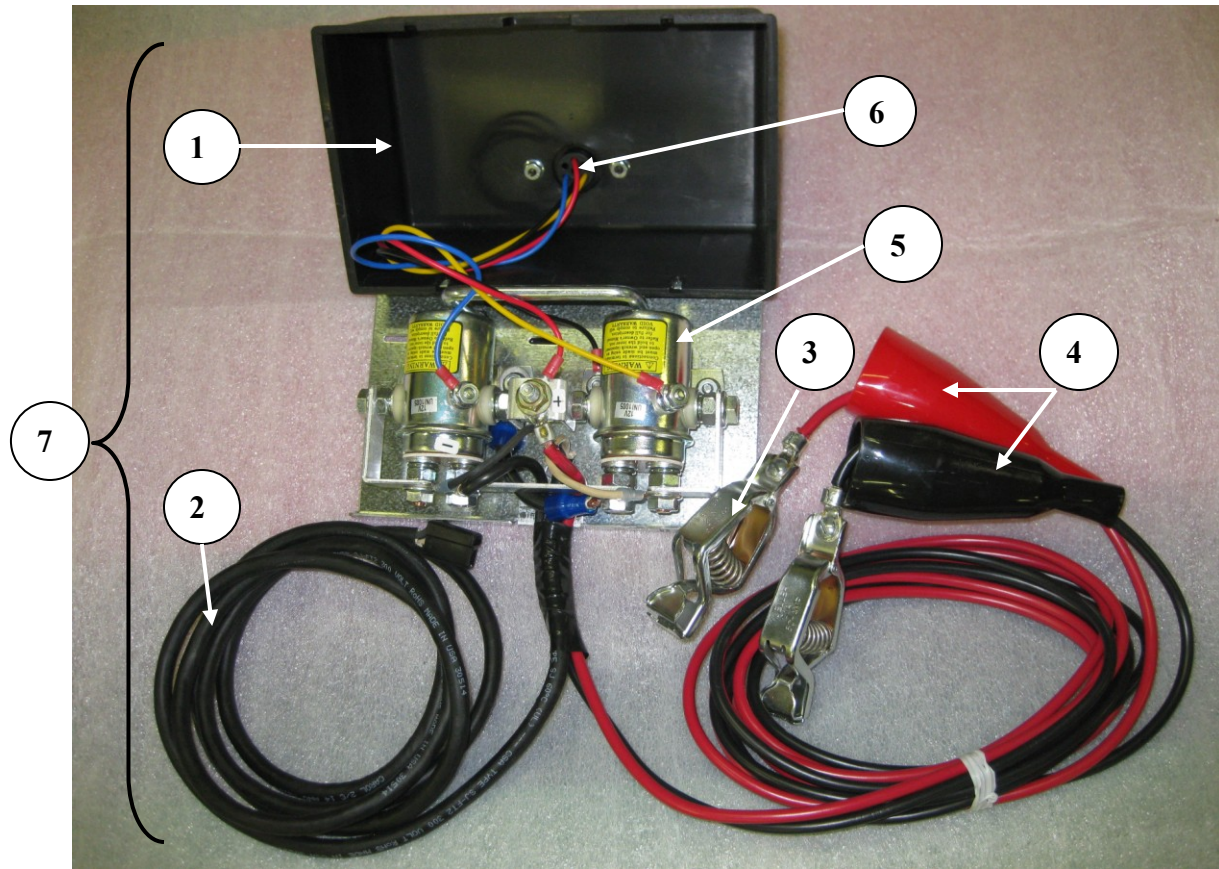


Wiring Diagram #2

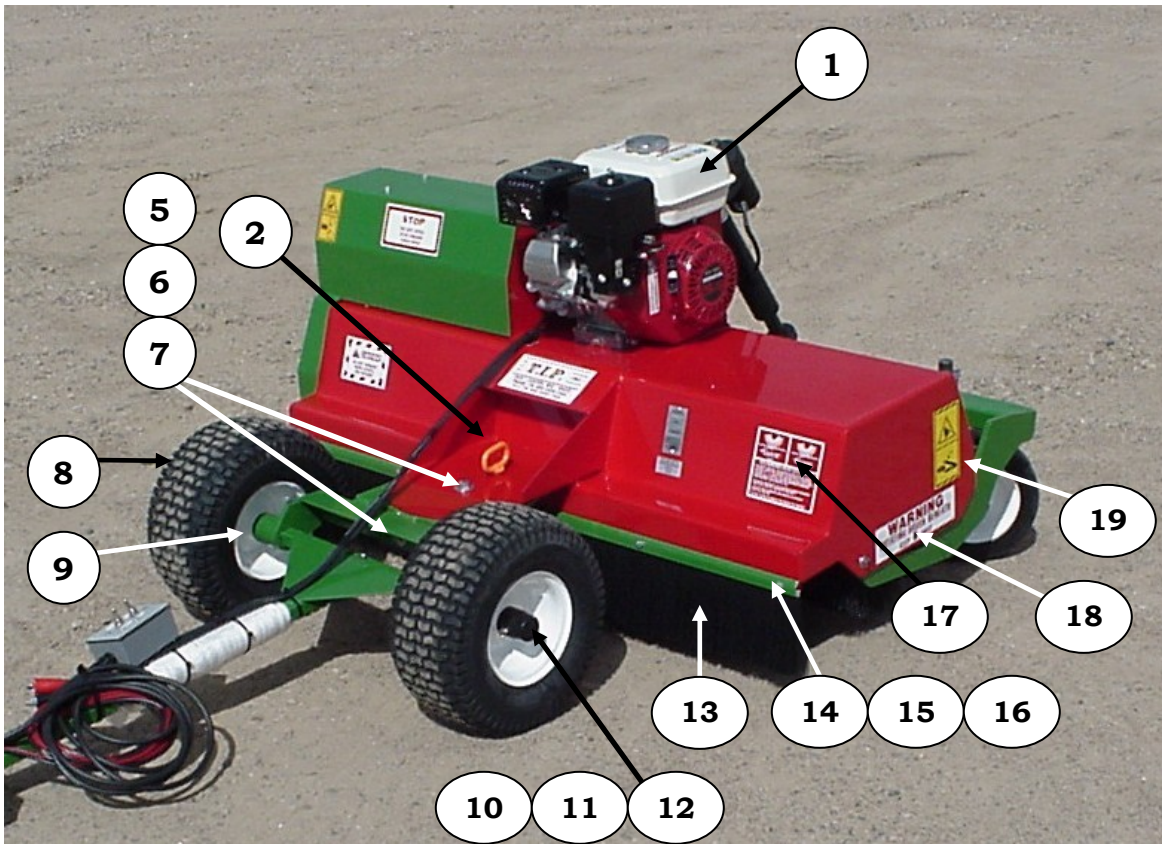


Ref	Part#	Description	Qty
1	MC3060T44	3/8" U Bolt for 2" x 2-5/8" Box Tube	1
2	SW90 – 32070	Back Plate	1
3	WA189101361	16/4 SJ Service Cord (12ft)	1
4	SW2237	12V Solenoid	2

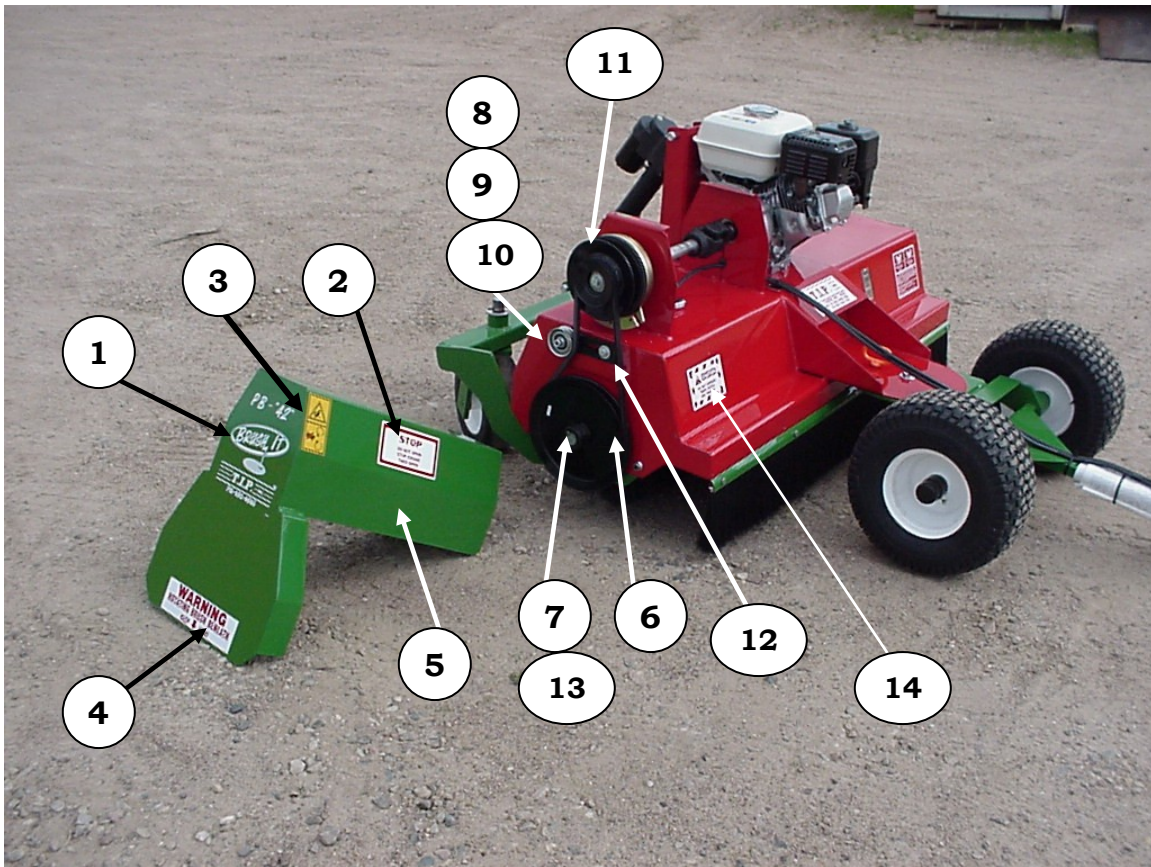
TP4001A Kit



Ref	Part#	Description	Qty
1	SW90 – 31079	Cover	1
2	WA189101361	16/4 SJ Service Cord (12 ft)	1
3	MC7236K15	Alligator Clip – Heavy Duty	2
4	MC7236K211	Insulator Sleeve – Red – Large	1
	MC7236K212	Insulator Sleeve – Black – Large	1
5	SW2237	12V Solenoid	2
6	SW90 – 25048	Socket with Wiring	1
7	TP4001AKIT	Entire Control Box w/ Wiring (Everything shown in picture above except U-Bolt)	

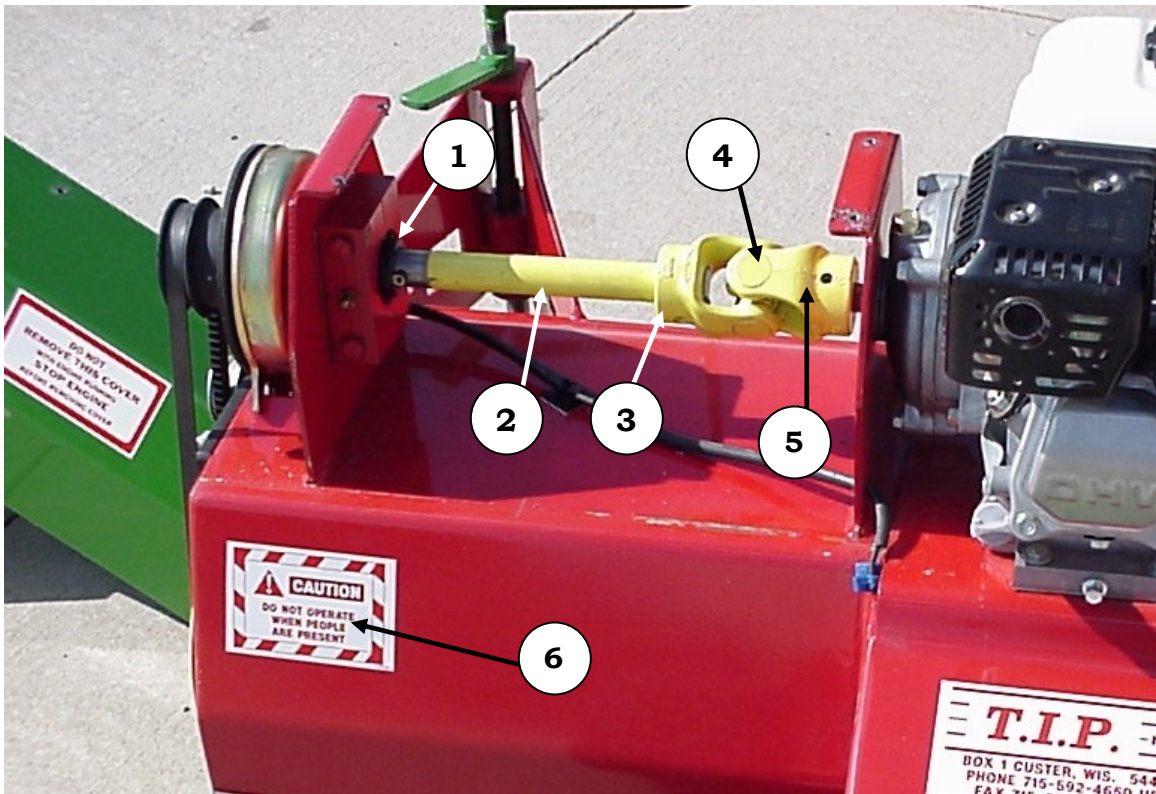
Figure 1:

Ref#	Part#	Description	Qty
1	EPGX160K1HX2	Engine, 5.5hp Honda, 6:1 Reduction	1
2	MC92627A204	Pin, Quick Release High Visibility Orange	1
5	FN13209	Bolt, 1/2-13 x 1-1/2"	2
6	FN33010	Washer, 1/2 Flat	4
7	FN37030	Nut, 1/2-13 Nylock	2
8	TP6001	13/6.50 x 6 2 Ply Turf Wheel Assy	2
8a	TP6014	Bearing, Replacement Roller	2
8b	BS153-440	Bushing, Replacement Steel	4
9	BRFELT	Seal, Felt Wheel	6
10	FN65126	Cotter Pin, 3/16 x 1-3/4	2
11	FN33092	Washer, 3/4 SAE Flat	2
12	MC40005K44	Vinyl Cap	2
13	TP7008	Brush, 42" Straight Black	1
14	FN13005	Bolt, 1/4-20 x 1"	3
15	FN33618	Washer, 1/4" Lock	3
16	FN36302	Nut, 1/4-20	3
17	TP6012	Decal, Proper Brush Setting	1
18	SP106	Decal, Warning, Rotating Brush	2
19	IM447-417	Decal, Warning, Pinch Point	1

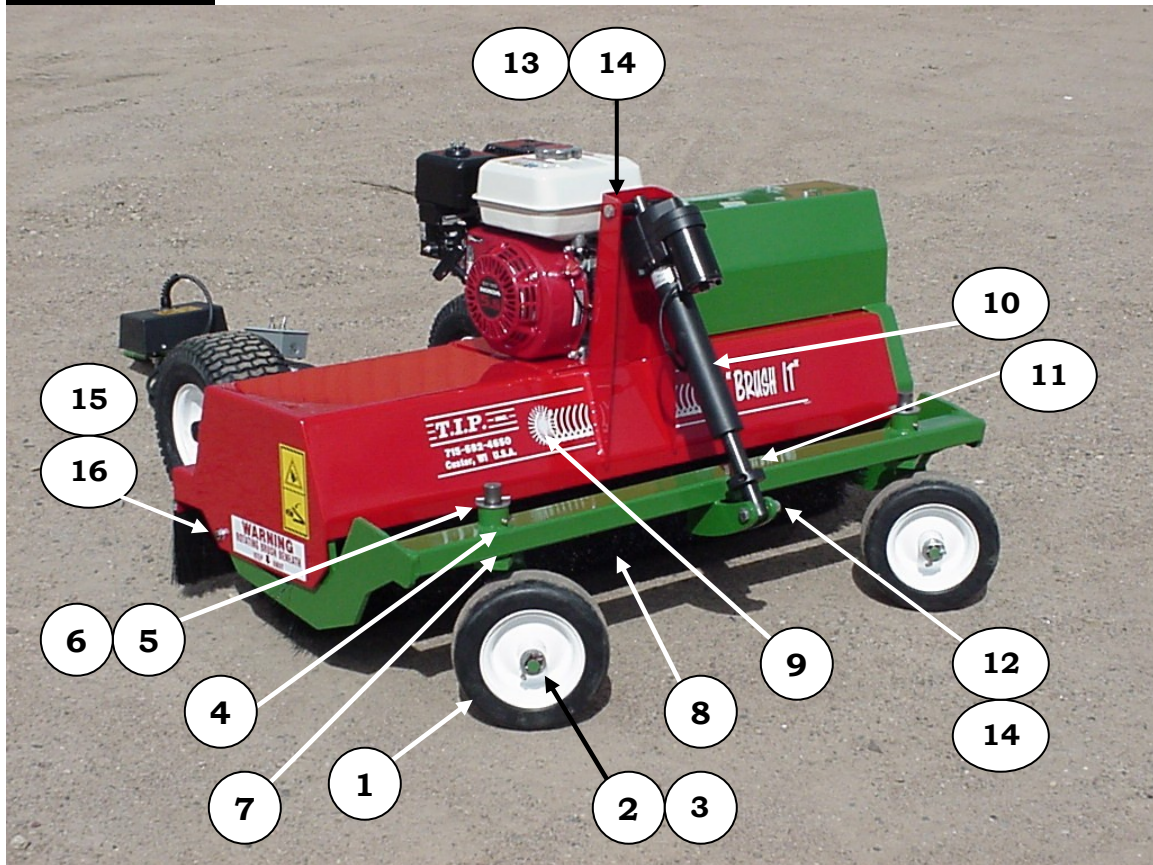
Figure 2:

Ref#	Part#	Description	Qty
1	SPBRUSHITPB-42	Decal, Brush-It Small	2
2	TP6013	Decal, Do Not Remove Cover	1
3	IM449-307	Decal, Do Not Place Hand Into...	1
4	SP106	Decal, Warning, Rotating Brush	2
5	****	Shield, Brush It	1
6	TOWP9	Pulley, 9" Weld-On	1
7	TP7004	Shaft, Brush	1
8	TP7002	Idler, V-Belt	1
9	FN24288	Bolt, 3/8-16 x 1-1/2 FHSCS	1
10	FN37024	Nut, 3/8-16 Nylock	1
11	TP6002	Clutch, Electric Modified	1
12	KAAX42	V-Belt, AX42	1
13	IPSA205-16G	1" Bearing Insert for Brush	2
14	GPDNO	Decal, Do Not Operate...	1

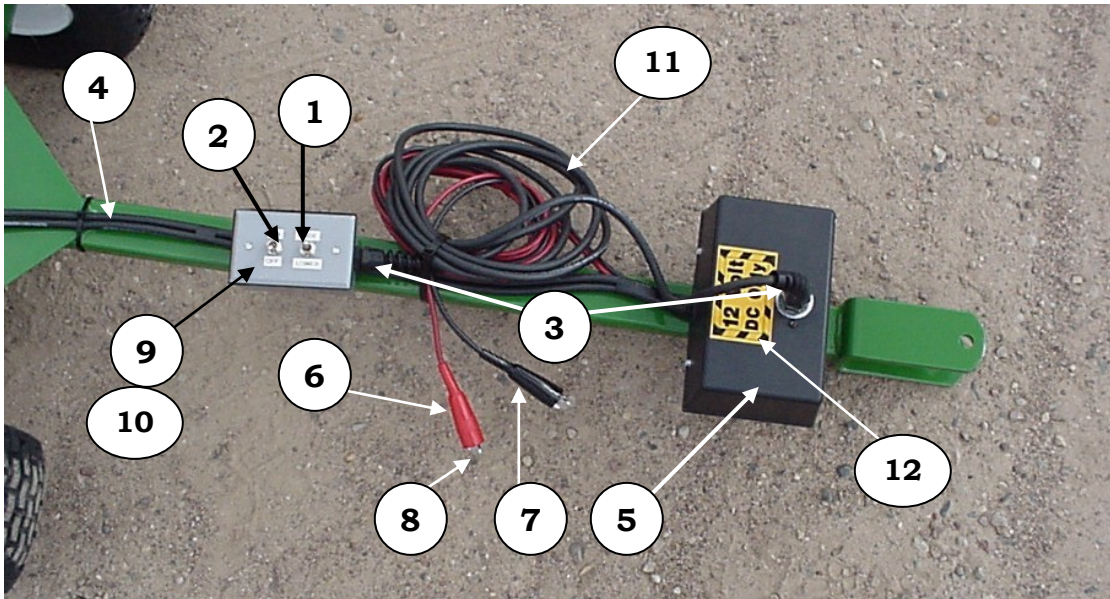
Figure 3:



Ref. #	Part#	Description	Qty
1	IPSA205-16G	1" Bearing Insert	1
2	TP6022	Shaft, Engine Jack	1
3	BU800-0616	Yoke, #6 x 1" Bore	1
4	BU200-0600	Cross Kit, #6	1
5	BU800-0612	Yoke, #6 x 3/4" Bore	1
6	GPDNO	Decal, Caution, Do Not...	1

Figure 4:

Ref#	Part#	Description	Qty
1	TP7003	Caster Wheel Assy.	2
1a	TP6014	Bearing, Replacement Roller	2
1b	BS153-440	Bushing, Replacement Steel	4
2	FN65126	Cotter Pin, 3/16 x 1-3/4"	2
3	FN33092	Washer, 3/4 SAE Flat	2
4	FN60108	Zerk, 3/16 Drive Type	2
5	FN33096	Washer, 1" SAE	2
6	FN64141	Spring Pin, 3/16 x 2"	2
7	TP7007	Spindle Assy., Rear Caster	2
8	TP7001	Spiral Brush, 42" x 14" Dia.	1
9	SPBRUSHIT	Decal, "Brush It"	1
10	BLK2XG05	Actuator, 600# Linear	1
11	MC9951K12	Set Collar, Split	1
12	FN13213	Bolt, 1/2-13 x 2-1/2"	1
13	FN13223	Bolt, 1/2-13 x 5"	1
14	FN37030	Nut, Nylock 1/2-13	2
15	FN26346	Shoulder Bolt, 3/8-18 x 1/2"	2
16	FN37341	Flange Nut, 3/8"-18	2

Figure 5:

Ref#	Part#	Description	Qty
1	TP6004	Toggle Switch, Up-Dn SPDT	1
2	TP6003	Toggle Switch, Clutch On-Off SPST	1
3	TP6007	Cord Connector	2
4	WA189101361	14/2 Type SJ Service Cord	12
5	TP4001A	Solenoid Type Up-Down Control	1
6	MC7236K181	Insulator Sleeve Red	1
7	MC7236K182	Insulator Sleeve Black	1
8	MC7236K13	Alligator Clip	2
9	TP6005	Electric Box, Wet Location	1
10	TP6006	Weather Tight Cover	1
11	WA189102767	16/4 Type SJ Cord	12
12	SP111	Decal, 12Volt DC Only	1

MAIL THIS WARRANTY CARD TODAY

IF IT IS NOT REGISTERED IN THE HOME OFFICE OF
T.I.P. INC.

CUSTER, WI 54423

ANY CLAIM YOU HAVE UNDER THE WARRANTY
WILL NOT BE HONORED....

DON'T DELAY

PLEASE COMPLETE THE WARRANTY REGISTRATION
AND
RETURN IMMEDIATELY.

CUT HERE

T.I.P. INC.

1619 COUNTY K

CUSTER, WI 54423

PHONE 715-592-4650 • FAX 715-592-5063

WARRANTY REGISTRATION

NAME: _____

ADDRESS: _____

CITY/STATE/ZIP CODE: _____

DEALER'S NAME: _____

DEALERS ADDRESS: _____

CITY/STATE/ZIP CODE: _____

DATE OF PURCHASE: _____

S/N _____

MODEL# _____

I HAVE READ AND FULLY UNDERSTAND ALL
SAFETY DIRECTIONS AND AGREE TO TRAIN ALL PERSONNEL
OPERATING THIS MACHINE.

SIGNATURE: _____

DATE: _____



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Custer, WI 54423

e-mail tip@tipinc.net · www.tipinc.net
Phone 715-592-4650 · Fax 715-592-5063