



OWNER/OPERATOR'S MANUAL & ILLUSTRATED PARTS LIST

MODEL:

73-70880 BOOM MOWER, BM425



WARNING: If incorrectly used this machine can cause severe injury. Those who use and maintain this machine should be trained in its proper use, warned of its dangers and should read the entire manual before attempting to set up, operate, adjust or service the machine.



09-161A REV C

**CALIFORNIA
Proposition 65 Warning**

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects and other reproductive harm.



WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

**Californie Proposition 65
Avertissement**

Les échappements des moteurs diesel et certains de leurs composés sont reconnus par l'Etat de Californie pour être cancérigènes, provoquer des défauts congénitaux et d'autres dangers en matière de reproduction.



AVERTISSEMENT

L'émission du moteur de ce matériel contient des produits chimiques que l'Etat de Californie considère être cancérigènes, provoquer des défauts congénitaux et d'autres dangers en matière de reproduction.

**California Advertencia
de la Proposicion 65**

El estado de California hace saber que los gases de escape de los motores diesel y algunos de sus componentes producen cáncer, defectos de nacimiento y otros daños en el proceso de reproducción humana.



ADVERTENCIA

El estado de California hace saber que los gases de escape de este producto contienen productos químicos que producen cáncer, defectos de nacimiento y otros daños en el proceso de reproducción humana.

**CALIFORNIA
Proposition 65 Warning**

Battery posts, terminals, wiring insulation, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
WASH HANDS AFTER HANDLING.

BOOM MOWER

IMPORTANT MESSAGE

Thank you for purchasing this Jacobsen product. You have purchased a world class product, one of the best designed and built anywhere.

This product comes with an Owner/Operator's Manual. The useful life and good service you receive from this product depends to a large extent on how well you read and understand this manual. Treat this product properly and adjust it as instructed, and it will give you many years of reliable service.

See a Jacobsen dealer for any service or parts needed. Jacobsen service ensures that you continue to receive the best results possible from Jacobsen products. You can trust Jacobsen replacement parts because they are manufactured with the same high precision and quality as the original parts.

Jacobsen designs and builds its equipment to serve many years in a safe and productive manner. For longest life, use this product only as directed in the manual, keep it in good repair and follow safety warnings and instructions. You'll always be glad you did.

Jacobsen, a Textron Company
One Bob Cat Lane
Johnson Creek, WI 53038-0469

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DESCRIPTION

- The Boom Mower has been designed to facilitate mowing of slopes and ditches within the reach of the boom and mower deck. Front mounted, the boom and mower deck are always in view.
- The mower deck pivots on the boom to conform to the angle of the surface to be mowed and the boom pivots on the mower frame to reach areas above and below the plane of the tractor wheels.
- The floating deck cuts a 25" swath and is pivoted by an electrical actuator powered by the tractor electrical system.
- An electrically controlled clutch engages and disengages the belt drive. A clutch brake functions to stop the mower blade quickly when the clutch is disengaged.
- A limit switch is included with the mower to disengage the clutch automatically when the boom is raised above 45 degrees.
- The boom mower mounts on the tractor quick hitch mechanism and can be installed or removed in a few minutes.
- Orientation: When used to describe locations of components, the directions front, rear, right and left relate to the orientation of a person sitting in the operator's seat.



BOOM MOWER

SPECIFICATIONS

SPECIFICATIONS

Reach of Arm	92" from center line of tractor 59" from dual wheels
Tilt of Mowing Head	75° arc (7° in; 68° out)
Angle of Operation	30° below horizontal 45° above horizontal
Width of Cut	25"
Height of Cut	1-1/8" to 1-5/8" (skid shoe settings)
Drive	Belt drive with electric safety clutch. Blade mounted on right-angle gearbox
Overall Width: arm extended	115"
Overall Width: arm up	52"
Overall Height	79"
Weight	435 lbs.
Counterbalance	4 - 6 lb. weights
Gross Weight	675 lbs.



NOTICE !!!

Unauthorized modifications may present **extreme** safety hazards to operators and bystanders and could also result in product damage.

Jacobsen, a Textron Company strongly warns against, rejects and disclaims any modifications, add-on accessories or product alterations that are not designed, developed, tested and approved by Jacobsen Engineering Department. Any Jacobsen product that is altered, modified or changed in any manner not specifically authorized after original manufacture—including the addition of “after-market” accessories or component parts not specifically approved by Jacobsen—will result in the Jacobsen Warranty being voided.

Any and all liability for personal injury and/or property damage caused by any unauthorized modifications, add-on accessories or products not approved by Jacobsen will be considered the responsibility of the individual(s) or company designing and/or making such changes. Jacobsen will vigorously pursue full indemnification and costs from any party responsible for such unauthorized post-manufacture modifications and/or accessories should personal injury and/or property damage result.



This symbol means:
ATTENTION!
BECOME ALERT!

Your safety and the safety of others is involved.

Signal word definitions:

The signal words below are used to identify levels of hazard seriousness. These words appear in this manual and on the safety labels attached to Jacobsen machines. For your safety and the safety of others, read and follow the information given with these signal words and/or the symbol shown above.

DANGER

DANGER indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.

WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.

CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, **MAY** result in minor or moderate injury. It may also be used to alert against unsafe practices or property damage.

CAUTION

CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, **MAY** result in property damage



MODEL NUMBER: This number appears on sales literature, technical manuals and price lists.

SERIAL NUMBER: This number appears only on your mower. It contains the model number followed consecutively by the serial number. Use this number when ordering parts or seeking warranty information.

GENERAL SAFETY

1. Read and understand the Owner's Manual before attempting to operate this machine.
2. Operate all controls from the operator's seat. **NO RIDERS.**
3. Keep all shields in place and safety switches adjusted properly.
4. Do not leave equipment unattended. STOP the engine and remove the key.
5. Do not allow minors or the inexperienced to operate this machine.
6. Keep people and pets a safe distance away from machine using power driven attachments. Injury could result from flying debris.

OPERATING SAFETY

1. **STOP ENGINE** to install drive belt.
2. **DO NOT** attempt to work on unit or any attachments with the engine running. **STOP ENGINE!**
3. Before leaving the tractor seat:
 - **Disengage PTO drive.**
 - **Set PARK brake.**
 - **Stop engine.**

DANGER

**KEEP HANDS AND FEET AWAY FROM
ROTATING BLADES.**

WARNING

The mower deck is enclosed on all sides to prevent foreign material from being propelled toward operator or bystanders. The deck must be kept parallel to the ground to prevent possible injury or death.

MOUNTING INSTRUCTIONS

BOOM MOWER

1. Install dual wheels (420/430 only) and weight bar as shown by following the instructions provided in the respective kits.



2. Check to be sure that the quick hitch latches are open (handle is depressed).



3. Position PTO belt on mower input pulley as shown.



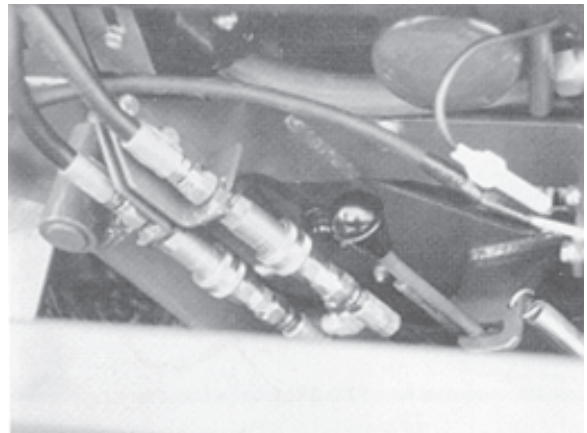
BOOM MOWER

MOUNTING INSTRUCTIONS

4. With assembled mower resting on support stands on a smooth level surface, carefully drive tractor between mower frame members to align quick hitch latches with frame. Use steering and front lift controls as required to assist proper positioning. **STOP ENGINE.** (See Photo)



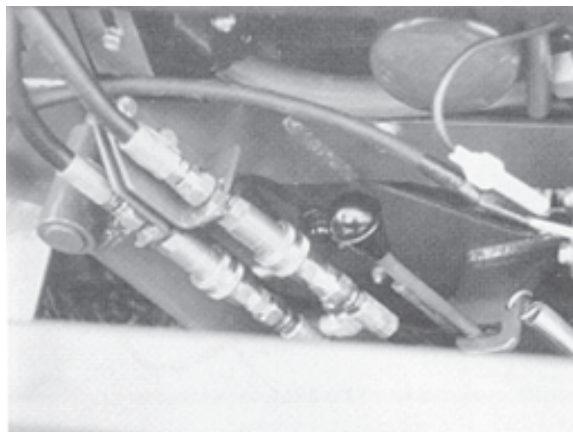
5. Engage quick hitch latches (handle is raised). Check to be sure latches are fully engaged. (See Photo)



6. Secure left and right mower frame members to rear frame support shaft using clamps as shown (square tube rests on shaft).



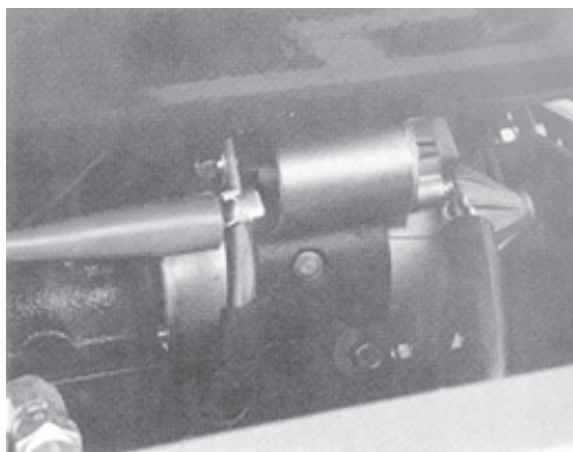
7. Connect mower hydraulic hoses as shown to auxiliary hydraulic quick couplers (hose from rod end of lift cylinder goes to the front connector).



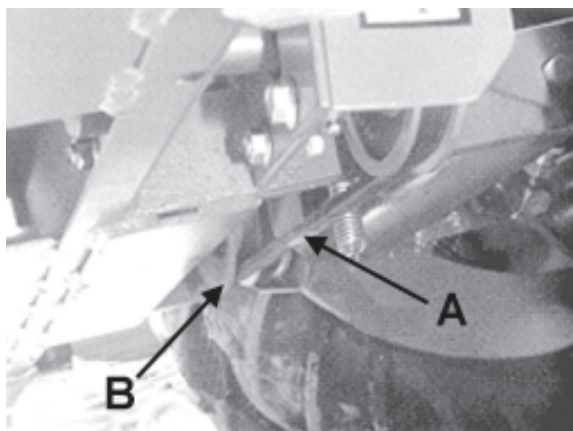
8. **Kubota Engine:** Connect red power cable from mower control pedestal to battery cable terminal at starter motor. Connect black power cable to engine ground. (See Photo)
(Serial No. 1001 - 1096)

Onan Engine: Connect red cable to positive terminal of battery. Connect black cable to negative terminal of battery.
(Serial No. 1001 - 1096)

Connect Boom Mower wiring harness by plugging into 12 volt outlet installed on tractor.
(Serial No. 1097 -)



9. Position PTO belt **A** on PTO pulley **B** as shown.



BOOM MOWER

MOUNTING INSTRUCTIONS

10. Position counterweights on mower frame as shown in Photo A for units Serial no. 1001-1191.

Units with Serial no. 1192 and up have different style weights as shown in Photo B.

Raise mower support stands and secure with clevis pin and clip pins.

NOTE: A rear weight bar kit with 4 weights is required for boom mower operation.



Photo A

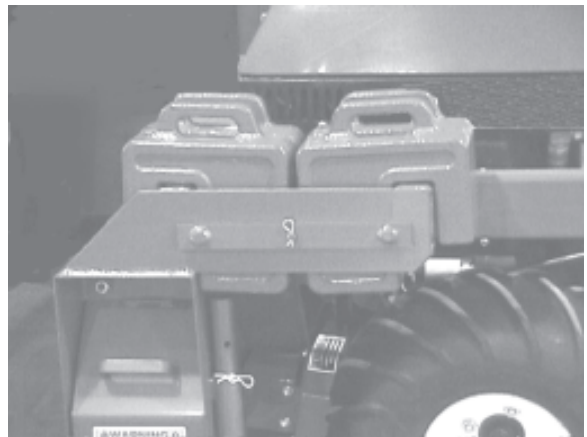
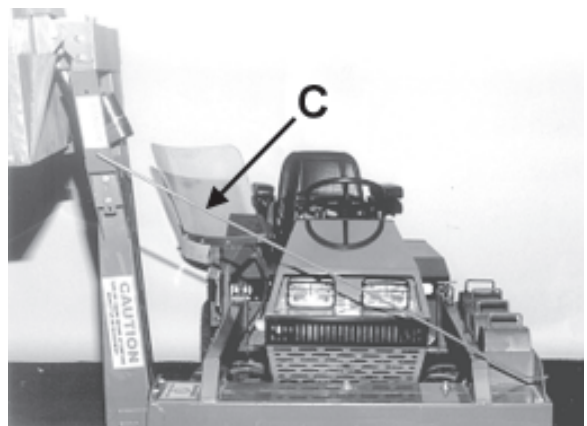


Photo B

11. A transport rod **C** is provided for long distance transporting. Install as shown.



REMOVAL INSTRUCTIONS

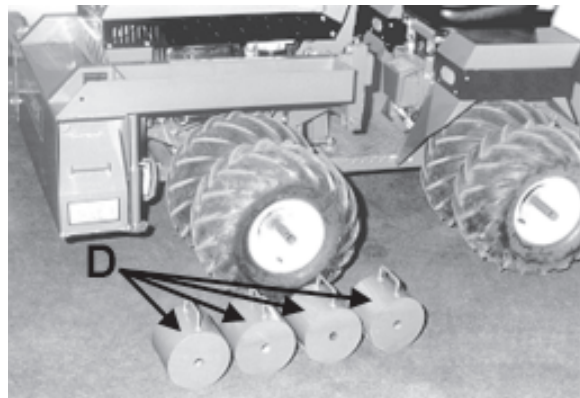
BOOM MOWER

1. Select a smooth, level surface for mower removal and lower mower deck to rest on the ground as shown.

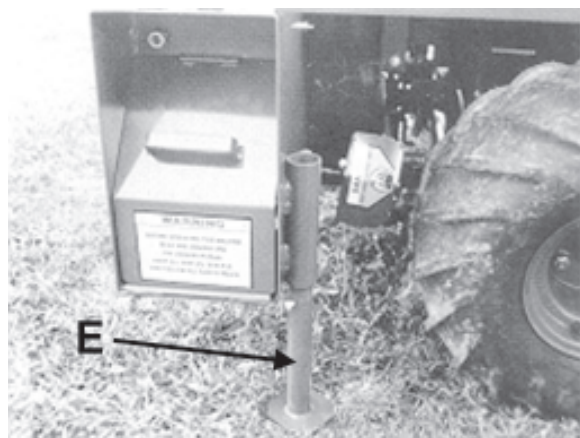
STOP ENGINE. Move auxiliary hydraulic lever back and forth a few times to relieve any pressure in the hydraulic lines.



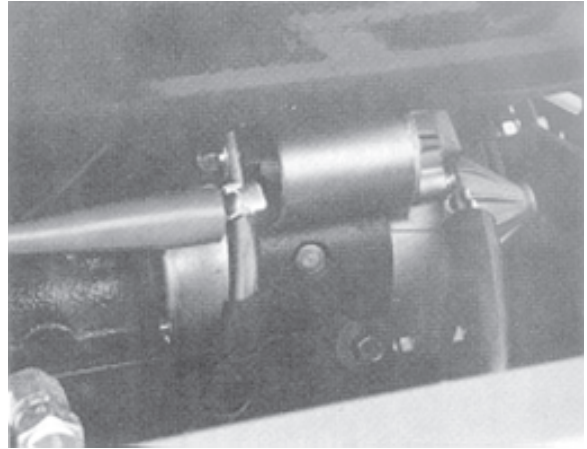
2. Remove counter weights **D** from mower frame.



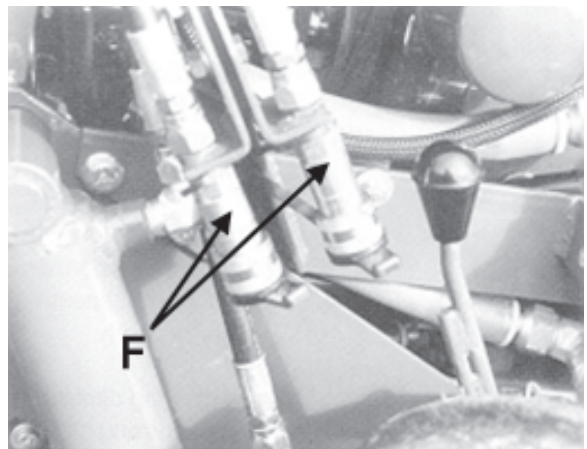
3. Lower mower support stands **E** and secure using clevis pins and clip pins.



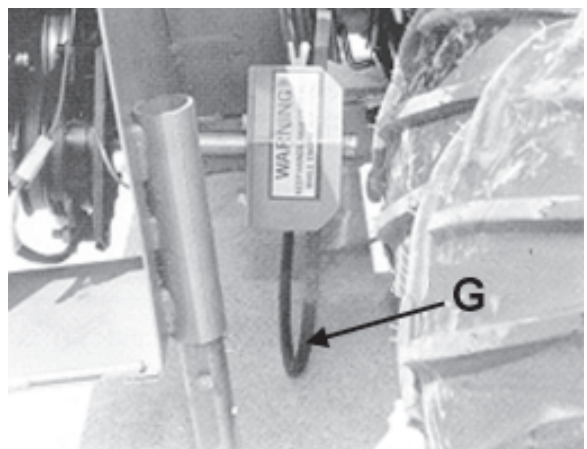
4. Disconnect power cable from terminal and wrap around right frame member.



5. Disconnect mower hydraulic hoses at auxiliary quick couplers **F**. Cap auxiliary quick couplers.



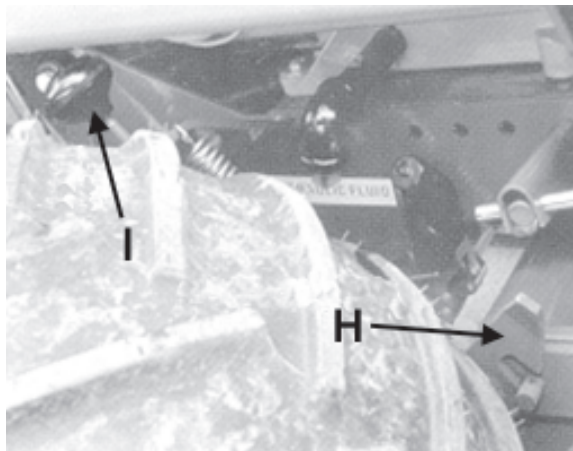
6. Remove drive belt **G** from PTO pulley.



REMOVAL INSTRUCTIONS

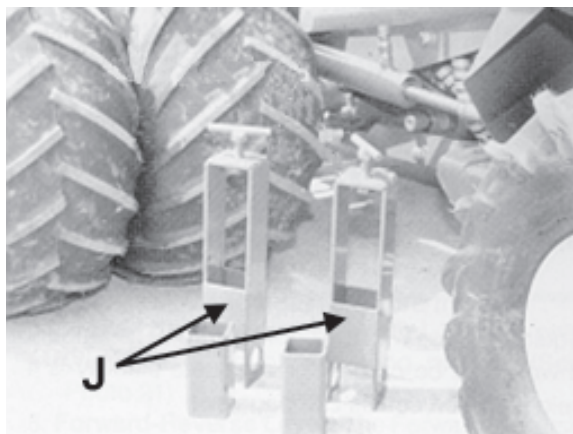
BOOM MOWER

7. Disengage quick hitch latch **H**. Depress handle **I**.



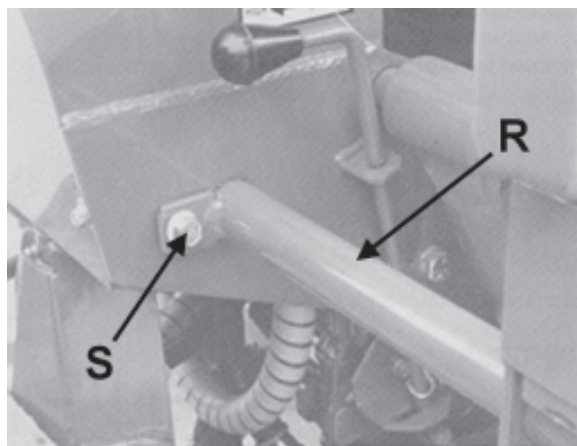
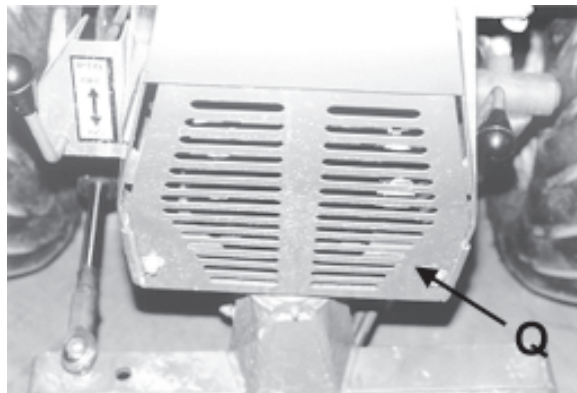
8. Remove frame support clamps **J** from right and left frame members.

NOTE: Always remove weights from weight bar when boom mower is removed.

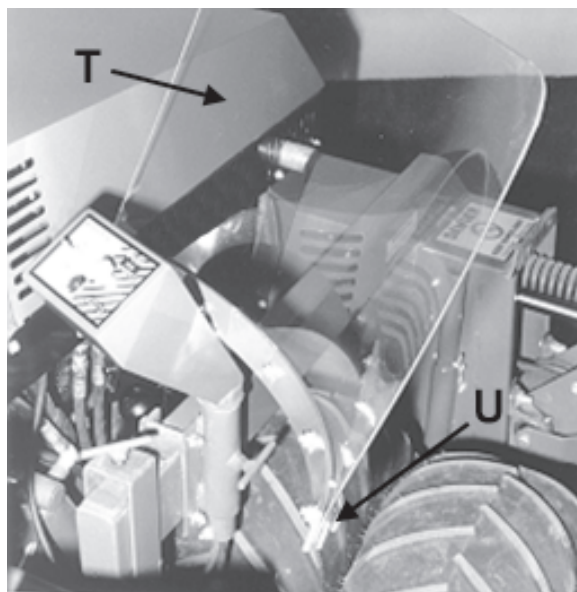


1. Remove pump access cover **Q** from rear of engine compartment and retain hardware for later use.
2. **Model 420:** Install rear frame support shaft **R** and secure using a 3/8 spacer and 3/8 SAE flat washer between the tab and the frame. Fasten with 3/8 X 1-1/4 bolt and 3/8 locknuts **S**. Reinstall access cover **Q** using hardware retained in Step 1.

Model 425/430: Install rear frame support shaft **R** and fasten with 3/8 X 1-1/4 bolts and 3/8 locknuts **S**. Do not use spacers. Reinstall access cover **Q** using hardware retained in Step 1.



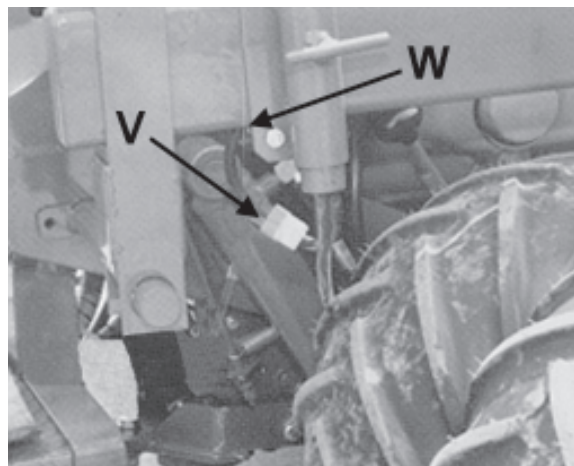
3. Position mower windshield **T** as shown and fasten with 5/16 X 3/4 flange bolts and 5/16 nuts **U**.



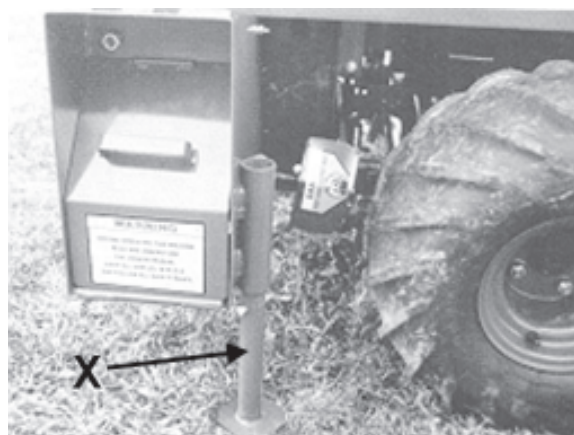
4. Be sure wiring harness **V** is connected beneath control pedestal **W**.

NOTE: ALL TRACTORS MUST BE EQUIPPED WITH FLOAT POSITION ON THE AUXILIARY VALVE!

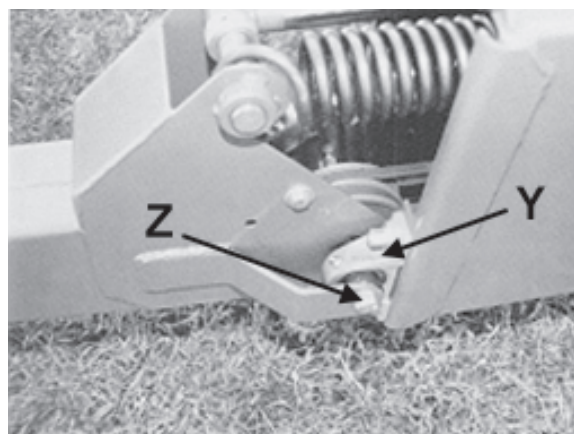
On some early model 420 tractors and previous model S-20 tractors it is necessary to install a FLOAT KIT on the auxiliary valve, if not already equipped. Order Part Number 23-041 and install according to instructions provided with kit.



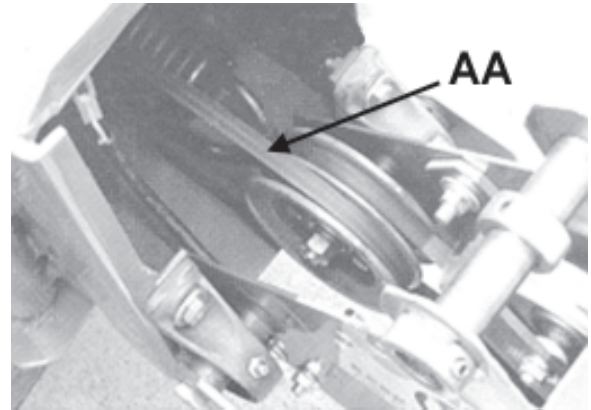
5. With mower frame resting on support stands **X** on a smooth, level surface, install main frame to tractor.



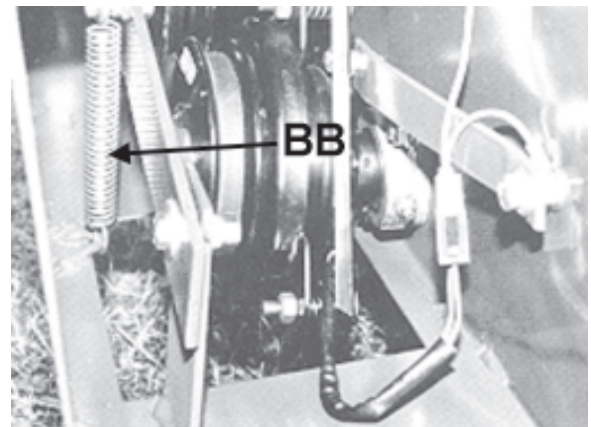
6. Position boom pivot bearings **Y** on mower frame as shown and secure lightly using (4) 3/8 X 1-1/2 bolts, flat washers, lockwashers and nuts **Z**. Check for adequate clearance for drive belt installation. Also check to be sure bearings are positioned evenly on bearing pads (to assure that boom is square with frame). Tighten hardware at this time.



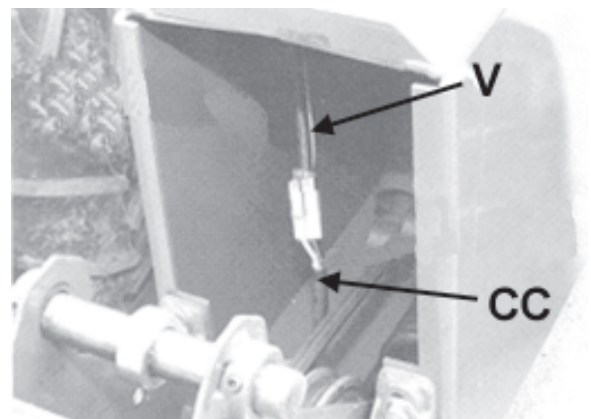
7. Position drive belt **AA** from mower frame in pulley as shown.



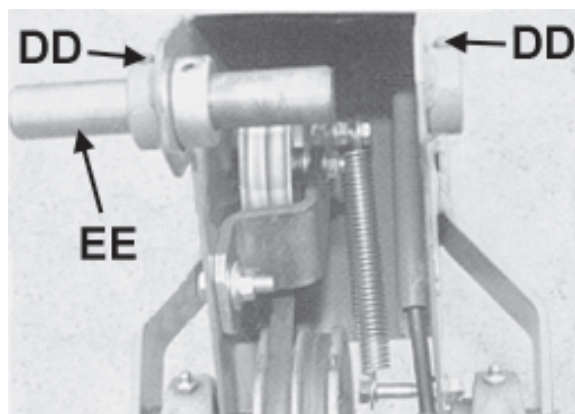
8. Position drive bolt idler pulley spring **BB** as shown.



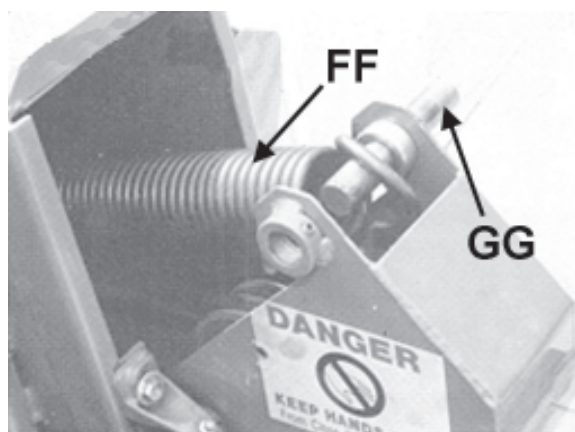
9. Connect mower frame wiring harness **V** to boom wiring harness **CC** as shown.



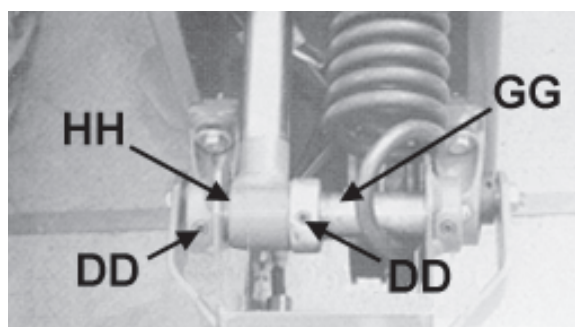
10. Loosen the (2) outer setscrews **DD** and move cylinder rod anchor pin **EE** to front as shown.



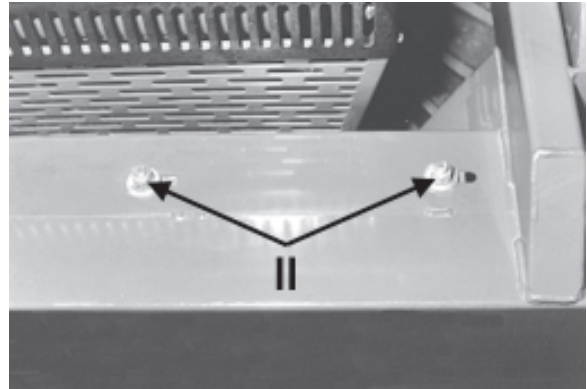
11. Position boom counterbalance spring **FF** on cylinder rod anchor pin **GG** as shown.



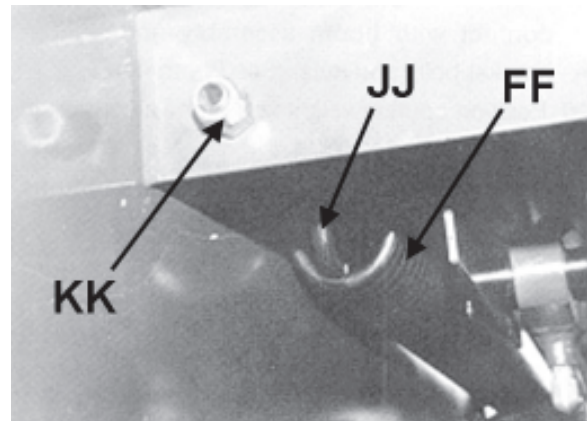
12. Start engine. Have helper use auxiliary control to extend boom lift cylinder slowly to align rod eye **HH** with anchor pin **GG**. **STOP ENGINE.** Move anchor pin **GG** to rear to engage rod eye **HH** and frame and tighten setscrews **DD**.



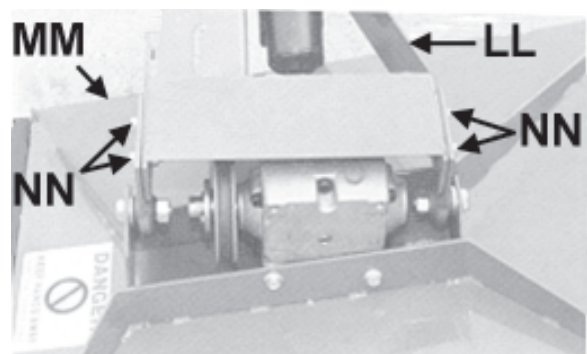
13. Loosen boom cylinder bracket nuts **II** just enough to allow bracket movement. Start engine and use auxiliary control to retract cylinder fully. **STOP ENGINE.**



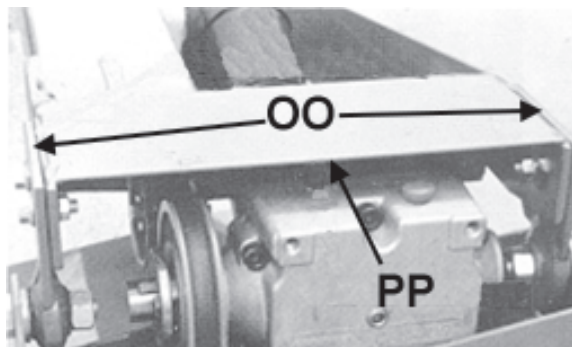
14. Position counterbalance spring **FF** and anchor bolt **JJ** as shown and secure using (2) 1/2" nuts **KK**.



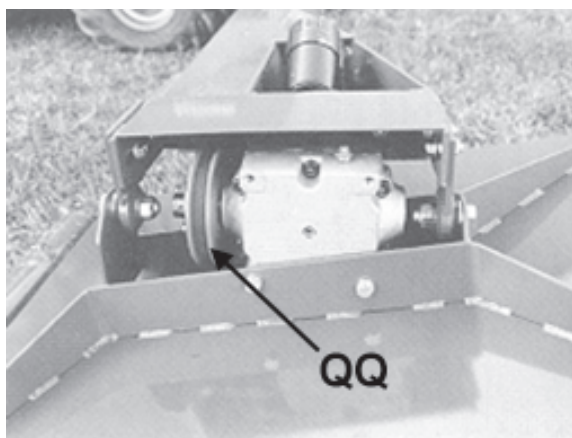
15. Start engine and lower boom **LL** into alignment with mower deck **MM**. **STOP ENGINE.** Secure mower deck **MM** to boom **LL** using (4) 3/8 X 1 flange bolts and locknuts **NN**.



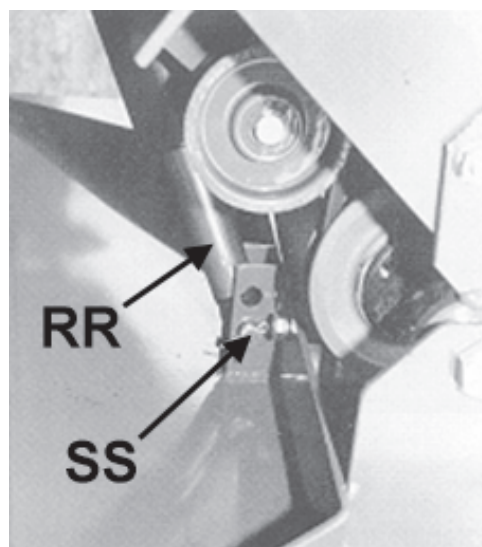
16. With tractor and mower deck on a smooth, level surface, align mower deck bearing brackets **OO** with boom assembly **PP** to assure that mower deck is square with boom. Tighten hardware at this time.



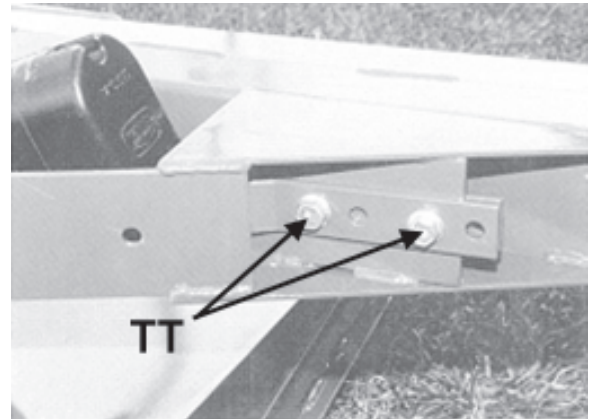
17. Have helper use loop of wire or other tool to raise spring-loaded idler pulley **QQ** to provide slack in drive belt. Position belt in pulley as shown above and have helper release idler. Check to be sure belt is properly aligned with idler pulley and clears the frame).



18. Position mower deck pivot actuator rod **RR** as shown and secure using clevis pin and cotter pin **SS**.



19. Loosen mower deck pivot actuator bracket bolts and nuts **TT** just enough to permit movement of bracket (boom assembly has slotted holes). Turn ignition switch on and pivot mower deck fully toward tractor (near edge upward). Turn ignition switch off. Move mower deck housing until near edge is approximately 1/8" short of contact with boom assembly and tighten bracket bolts and nuts.
20. Position counterweights on frame as shown on Page 9, Photo A.
21. Install weight bar following instructions provided with the kit.



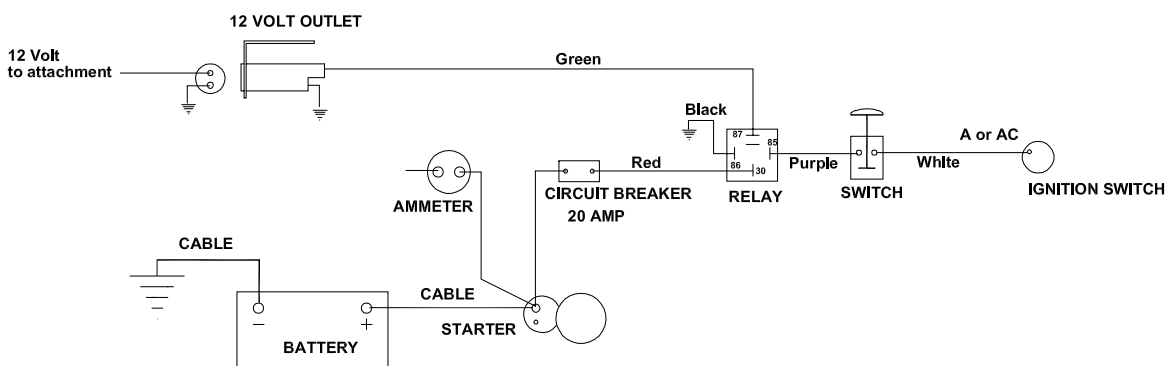
Installation Instructions for: 12 Volt Electrical Outlet Kit

This is Part No. 70-057 universal kit for all 420, 425, 430 and 525 power units.
It consists of the following:

Part No.	Description	Quantity
30-111	Plug and Outlet Assembly	1
30-116	Female Outlet Only	
30-117	Male Plug Only	
31-064	Switch, Push/Pull	1
30-376	No. 8 Stud Push On Terminal	2
30-114	Breaker, 20 Amp	1
35-067	Relay	1
01-027	Screw, #10 x 5/8	5
01-018	Lockwasher, #10	5
01-013	Nut, #10	5
95-06	Flat Washer, 3/8 SAE	2
64-284	Bracket, Hour Meter (For 420 Kubota Only)	1
64-602	Outlet Mounting Bracket (For 420 Onan Only)	1
30-205	Wire Harness, 12 Volt Plug Kit	1
64-909	Outlet Mounting Bracket (For 525 Only)	1
30-095	Connector, Quick Splice	1

General Instructions

Refer to the specific Model and engine listings for detailed installation instructions. The outlet locations are suggested, but when the outlet is mounted at a customer specified location, additional wiring may be needed. The wiring must be cut to length, protective mesh installed over the wires and connectors crimped to the wiring.



Installation Instructions for: Model 420 with Onan

The relay and breaker are mounted to the auxiliary hydraulic outlet bracket. Drill (2) 7/32 holes 1-9/16" apart below the black module to mount the breaker. Drill another 7/32 hole to mount the relay. It may be necessary to remove the bracket for drilling. Mount the relay and breaker with #10 screws, lockwashers and nuts as shown in Photo 1. Mount the outlet to the small bracket provided with #10 screws, lockwashers and nuts. Then mount the bracket to the mounting bolt of the hydraulic valve as shown. You may mount the outlet, relay and breaker at another location of your own choosing, but be sure to follow the wiring diagram on Page 44. Mount the switch through the bottom slot in the dash panel as shown in Photo 2 with (2) 3/8 flat washers provided.

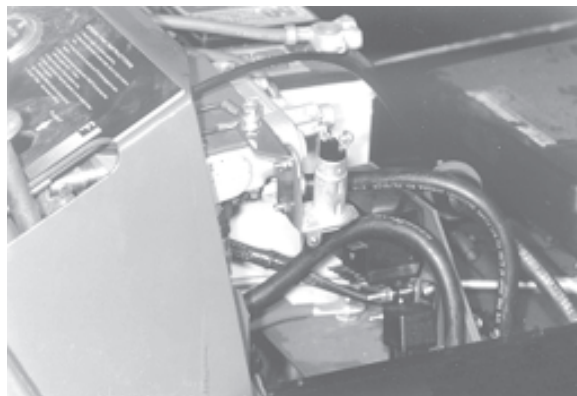


Photo 1



Photo 2

Installation Instructions for: Model 420 with Kubota

Remove the hour meter bracket and install the new one provided. Mount the breaker and relay to the bracket with #10 screws, lockwashers and nuts as shown in Photo 3.

Measure up 6 inches and drill (2) 7/32 holes 1-1/4" apart in the grille panel to mount the outlet as shown in Photo 4 with #10 screws, lockwashers and nuts.

You may mount the outlet, relay and breaker at another location of your own choosing, but be sure to follow the wiring diagram on page 44.

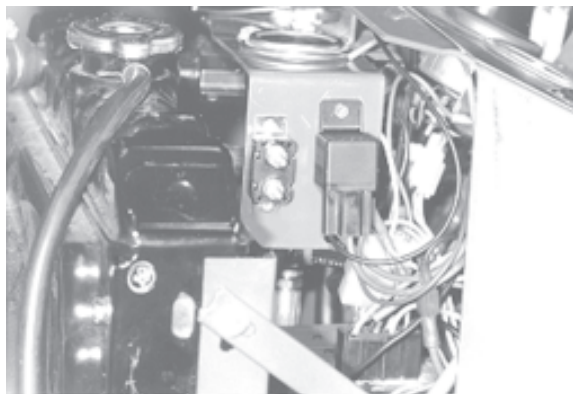


Photo 1

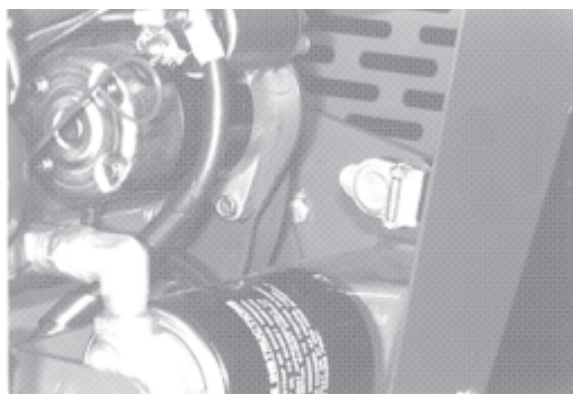
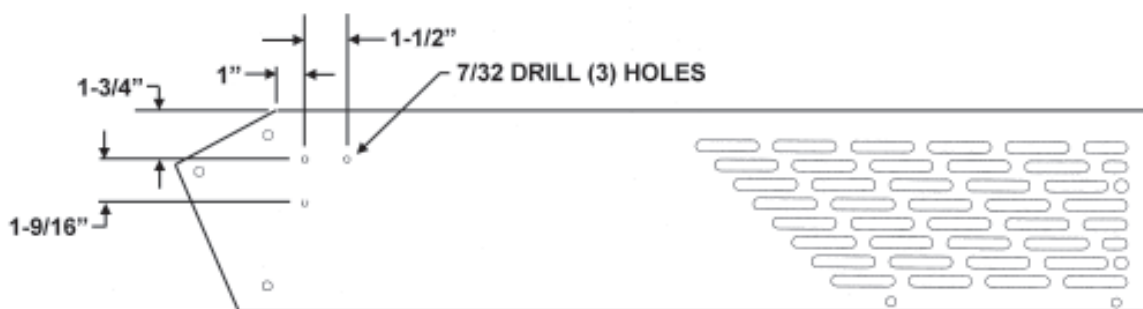


Photo 2

Installation Instructions for: Model 425 with Onan



The breaker and relay are mounted inside the right black side panel. Drill (2) 7/32 holes 1-9/16 inches apart in a vertical position for the breaker. Drill another hole 1-1/2 inches forward from the top hole to mount the relay. Mount the breaker and relay to the side panel with #10 screws, lockwashers and nuts as shown in drawing above.

The outlet is mounted on the inlet air shield as shown in Photo 6. Drill (2) 7/32 holes 1-1/4 inches apart and mount the outlet with #10 screws, lockwashers and nuts.

Mount the push pull switch by drilling a 13/32 hole 1-1/2 inches below the choke cable.



Photo 6

Installation Instructions for: Model 425/430 with Kubota

Photo 7 shows the push pull switch mounting for 425 Onan. For Kubota the switch may be mounted in the existing choke hole.

See drawing on previous page for mounting the breaker and relay. Follow Onan instructions for mounting the breaker and relay.

Measure down 1-1/2 inches on the grille side panel and drill (2) 7/32 holes 1-1/4 inches apart in a horizontal position. Mount the outlet with #10 screws, lockwashers and nuts as shown in Photo 8.

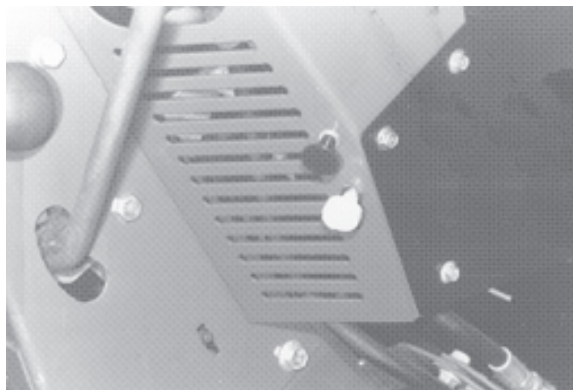


Photo 7

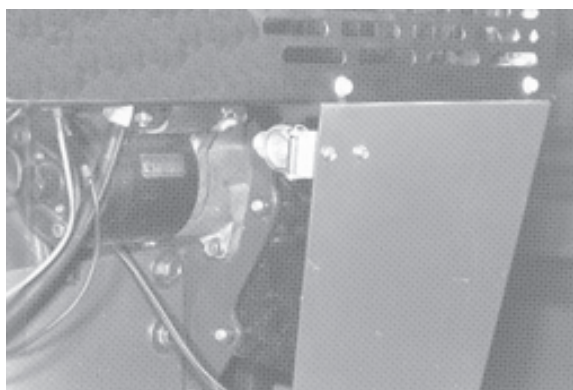


Photo 8

Installation Instructions for: Model 525

Mount the outlet (female) on the bracket using (2) #10 x 5/8 bolts, lockwashers and nuts and tighten. Mount the bracket using the same bolts used to mount the auxiliary hydraulic couplers.

Mount the relay and the breaker to the bracket in the front of the engine (under the hood) using #10 X 5/8 bolts, lockwashers and nuts.

Mount the switch on the dash by drilling a 13/32" diameter hole on top of or below the hour meter, or at a location of choice.



Photo 9

RECOMMENDED OPTIONS

Dual Wheels: (420/430 Only) Dual wheels should be considered a required option for mowing on uneven terrain and slopes.

The increased stability and steering efficiency resulting from dual wheels are important safety considerations.

Weight Bar: The rear-mounted weight bar **K** is required for use with the boom mower. The amount of weight to be carried for adequate stability is 4 weights which equals 220 pounds.



OPERATION PRECAUTIONS

Adjust position of protective shield for mowing conditions. It must always be positioned between the mower deck and the operator.

Practice with the boom mower in a safe, open area to become familiar with controls.

Always adjust tractor travel speed to allow plenty of time to see and avoid obstacles.

Always shift auxiliary control to float position. AFTER positioning mower deck for mowing. Mower components could be damaged if auxiliary control is left in neutral position while mowing.

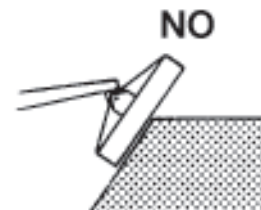
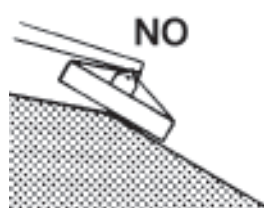
Do not operate mower with other persons in the area. Irregularities in ground surface can permit foreign material to be propelled from beneath mower deck to cause serious injury or death.

Be especially careful when mowing ditches. Ditches tend to accumulate bottles, cans and other trash. Also ditch surfaces can change between mowings.

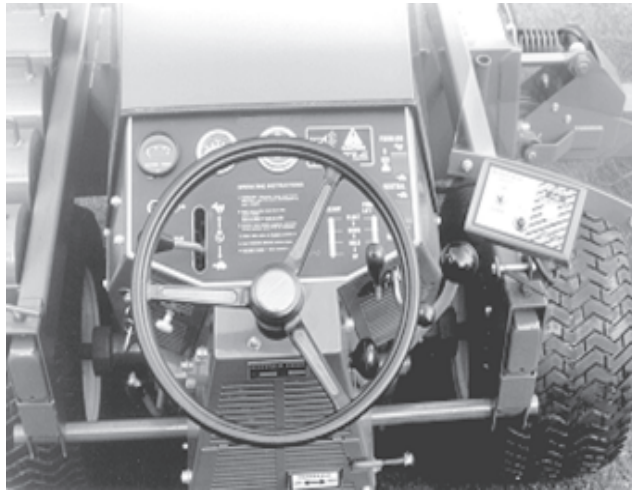
Before leaving tractor, move Forward-Reverse lever to neutral position, disengage PTO, set parking brake, lower mower deck to rest and stop engine.

Remove key from ignition if maintenance procedures are to be performed or tractor is to be left unattended.

Use only 3/4 of full throttle to maintain proper mower blade speed, NOT FULL THROTTLE. Greater blade speed increases the hazard of foreign material being propelled from beneath the mower deck.



Never position the upper edge of mower deck above the top of a bank or ditch. Foreign material could be propelled from the exposed underside of the deck and cause serious injury or death.



CONTROLS

Your Tractor Owner's Manual provides instructions for the proper use of tractor controls. This section provides instructions for some tractor controls as they relate to boom mower operation. It also describes the use of controls provided with the boom mower.

TRACTOR CONTROLS

1. **PTO:** The PTO must be engaged to operate the mower blade drive belts.

CAUTION

Always engage the PTO gradually to prevent shock loads on mower components.

2. **THROTTLE:** Use only 3/4 of full throttle to obtain proper mower blade speed, not full throttle. If run too slowly, the blade will tend to tear rather than cut grass.

WARNING

Greater blade speed increases the hazard of foreign material being propelled from beneath mower deck.

3. **AUXILIARY LEVER:** The auxiliary hydraulic lever controls mower boom movements. Push the lever to lower boom into the "FLOAT" position. Pull lever to raise boom. If boom does not respond as described, switch hoses at hydraulic quick couplers. **OPERATE MOWER WITH THIS LEVER IN THE FLOAT POSITION.** When in the "FLOAT" mode, the mower deck will automatically follow ground contour to assure even mowing. The float feature reduces strain on mower components and increases mower service life.

CAUTION

Always mow with boom auxiliary lever in "FLOAT" position.

4. **FRONT LIFT:** The front lift control is used only when installing or removing mower.
5. **FORWARD - REVERSE LEVER:** The Forward-Reverse lever is used to control direction of travel and ground speed. Since engine is run at 3/4 throttle for proper mower blade speed, the Forward-Reverse lever must be used to adjust ground speed. Maximum ground speed must be limited to allow plenty of time to see and avoid obstacles.
6. **TRANSAXLE SHIFTER:** Most mowing on level ground can be done in high gear range. However, when mowing on slopes or uneven ground or when loading or unloading tractor, low gear range must be used. It is important to have both front and rear transaxles in the same range at all times.



BOOM MOWER CONTROLS

1. **MOWER DECK PIVOT:** The mower deck pivot switch controls side-to-side angle of the mower deck. Operate switch as required to keep mower deck parallel to surface being mowed.

WARNING

The mower deck is enclosed on all sides to prevent foreign material from being propelled toward operator or bystanders. The deck must be kept parallel to the ground to prevent possible injury or death.

2. **MOWER BLADE CLUTCH:** The mower blade clutch switch disengages the mower blade clutch and applies a clutch brake to stop blade quickly. An indicator light glows to indicate that the clutch is engaged.

3. * **LIMIT SWITCH:** The boom mower includes a limit switch to disengage the mower blade clutch automatically when the boom is raised beyond a certain elevation (approximately 45 degrees above the plane of the tractor wheels). **Do Not By-Pass This Switch.**
4. * **SEAT SWITCH:** The operator's seat contains a switch which is actuated by the weight of the operator. If the operator leaves the seat while the PTO is engaged, the switch will stop the engine.

* NOT SHOWN

SERVICE SCHEDULE

SERVICE INTERVAL	DAILY PRESTART	50 HOUR	100 HOUR	500 HR ANNUAL
VISUAL INSPECTION OF:				
MOWER BLADE: CHECK AND / OR SHARPEN BOLT TORQUE: 75 - 85 FT. LBS.	X			
MOWER DECK: CLEAN DECK	X			
OPERATOR SHIELD: CLEAN SHIELD	X			
HARDWARE FOR SIGNS OF WEAR OR LOOSE BOLTS		X	X	
DRIVE BELTS FOR SIGNS OF WEAR		X		
LUBRICATION:				
GREASE CLUTCH SHAFT BEARING (SEE PHOTO 23)			X	
GREASE BOOM PIVOT BEARINGS (SEE PHOTO 24)				X
CHECK MOWER GEARBOX OIL LEVEL		X		
DRAIN AND REFILL MOWER GEARBOX WITH SAE 90 GEAR OIL (SEE PHOTO 25)				X

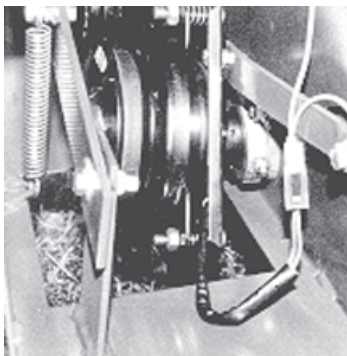


Photo 23

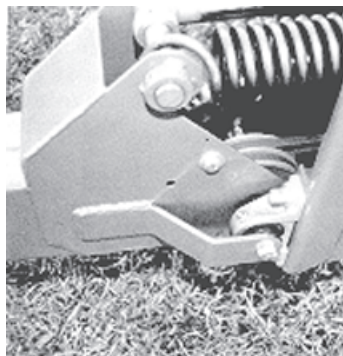


Photo 24

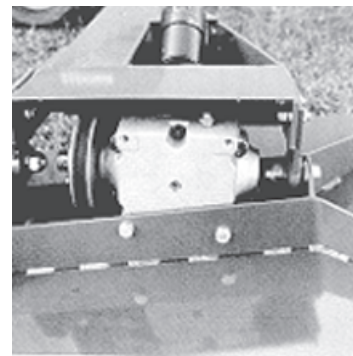


Photo 25

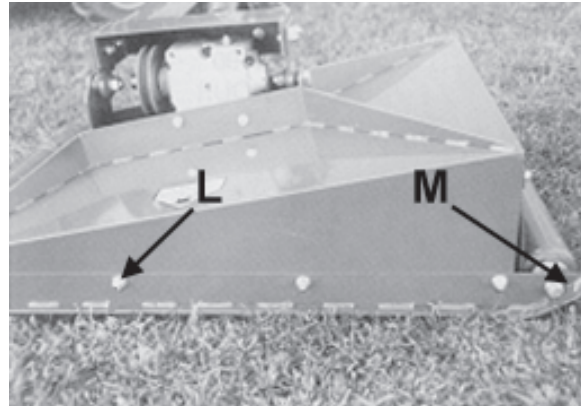
ADJUSTMENTS

Mower Blade Drive Belts:

Mower blade drive belt tension is maintained by spring-loaded idler pulleys and no adjustment is required.

Cutting Height:

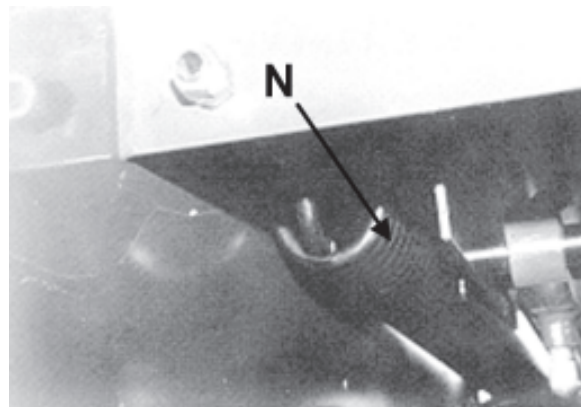
Mower deck roller frames have slotted holes **L** to permit adjustment of cutting height. Be sure roller frames **M** are adjusted evenly from side to side and from front to rear.



Counterbalance Spring:

The counterbalance spring **N** is used to limit the weight imposed on mower deck rollers and to permit adjustment of float characteristics as deck follows ground contours.

When properly adjusted, the spring should limit the weight imposed on rollers to between ten and twenty pounds with mower resting on level ground. It may be necessary to readjust tension to obtain proper float characteristics when mowing with boom raised or lowered to extremes. Tighten or loosen spring anchor bolt nut as necessary to obtain proper tension.

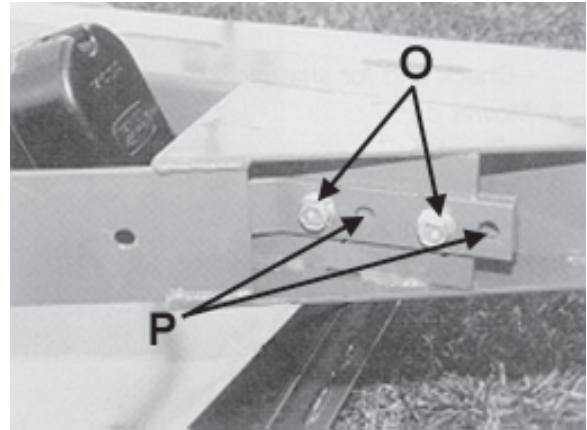


Mower Deck Pivot:

The mower deck pivot actuator can be mounted in either of two sets of mounting holes to provide maximum pivot angle. Mounting holes in boom assembly are slotted to permit additional adjustment in either direction.

Perform the following procedure to change mower pivot adjustment:

1. Use mounting holes **O** for maximum pivot toward tractor (for mowing near side of a ditch or a slope below tractor). Use mounting holes **P** from maximum pivot away from tractor (for mowing far side of a ditch or slope above tractor).
2. Move actuator mounting hardware to appropriate holes as shown. Do not tighten bolts and nuts.
3. Raise mower deck approximately three feet from ground and return auxiliary control to neutral position. **STOP ENGINE.**
4. Actuate mower deck pivot switch to obtain maximum pivot travel; retract fully if using holes **O** or extend fully if using holes **P**.
5. If using holes **O** raise inboard side of mower deck manually to obtain 1/8" clearance between deck housing and boom assembly. If using holes **P**, raise outboard side of mower deck manually as far as attaching hardware will permit.
6. Tighten attaching hardware to secure adjustment.



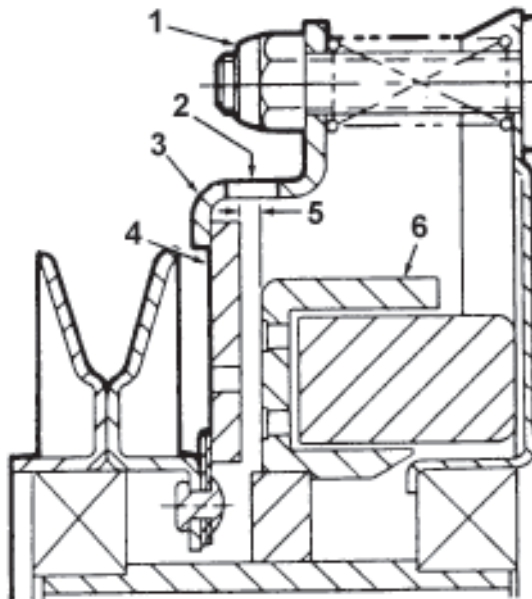
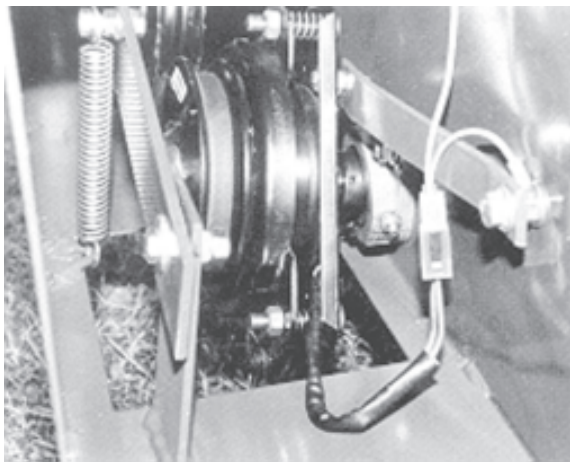
Mower Blade Clutch:

Clutch adjustment is required if the clutch slips. This is characterized by reduced blade speed during heavy mowing while engine speed remains constant.

Keep the mower blade sharp to reduce the load on drive belts and clutch and extend the time between clutch adjustments.

Perform the following procedure to adjust the mower blade clutch:

1. Move the Forward-Reverse lever to neutral position, disengage PTO, set parking brake, lower mower deck to rest and stop engine. Depress mower blade clutch switch.
2. Insert a .012 inch feeler gauge through cutout 2 in clutch brake plate 3 and into air gap 5 between armature 4 and rotor 6. If .012 gauge is a loose fit in air gap the clutch must be adjusted. Perform the feeler gauge check at all three cutouts.
3. If necessary, tighten all three brake spring nuts 1 to reduce air gap. Tighten nuts so gap is equal at all three cutouts.
4. After preliminary adjustment, check air gap at each cutout and repeat step 3 if necessary.
5. Repeat steps 3 and 4 until .012 inch feeler gauge is a snug fit at all three check points.



TROUBLE SHOOTING CHART

POSSIBLE CAUSE

REMEDY

SYMPTOM: Neither Clutch nor Actuator Operate

- | | |
|--|--|
| 1. Loose connections at battery or connectors on the boom mower. | 1. Check connections at battery. |
| 2. Fuse blown. | 2. Replace blown fuse with 30 amp. fuse. |

SYMPTOM: Clutch Will Not Engage

- | | |
|---|---|
| 1. Loose connection at limit switch. | 1. Check connections at limit switch. |
| 2. Loose connection at clutch or clutch switch. | 2. Check connections at clutch and clutch switch. |
| 3. Loose ground at clutch. | 3. Check ground wire at clutch. |
| 4. Defective limit switch. | 4. Check limit switch and adjust if needed. |
| 5. Defective clutch switch. | 5. Check with test light for current at clutch. |
| 6. Defective clutch. | 6. Check for current at clutch and clutch adjustment. |
| 7. Drive belts slipping. | 7. Check all drive belts. |

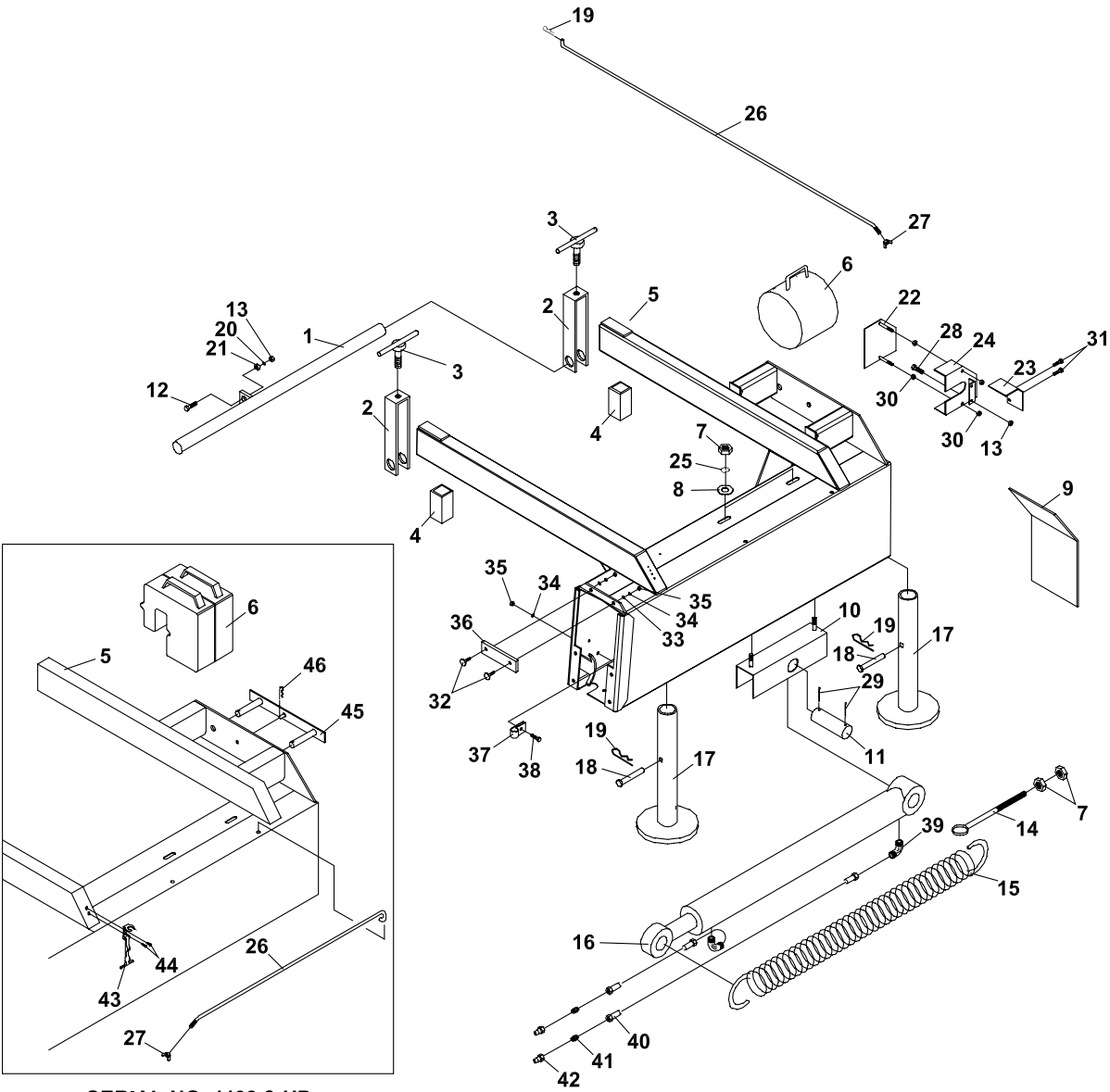
SYMPTOM: Tilt Actuator Will Not Operate

- | | |
|--|--|
| 1. Loose connection at actuator. | 1. Check wiring connections at actuator. |
| 2. Loose connection at control switch. | 2. Check connections at control switch. |
| 3. Defective actuator control switch. | 3. Check switch with test light. |
| 4. Defective actuator. | 4. Replace actuator. |

MAIN FRAME

BOOM MOWER

FIGURE 1



BOOM MOWER

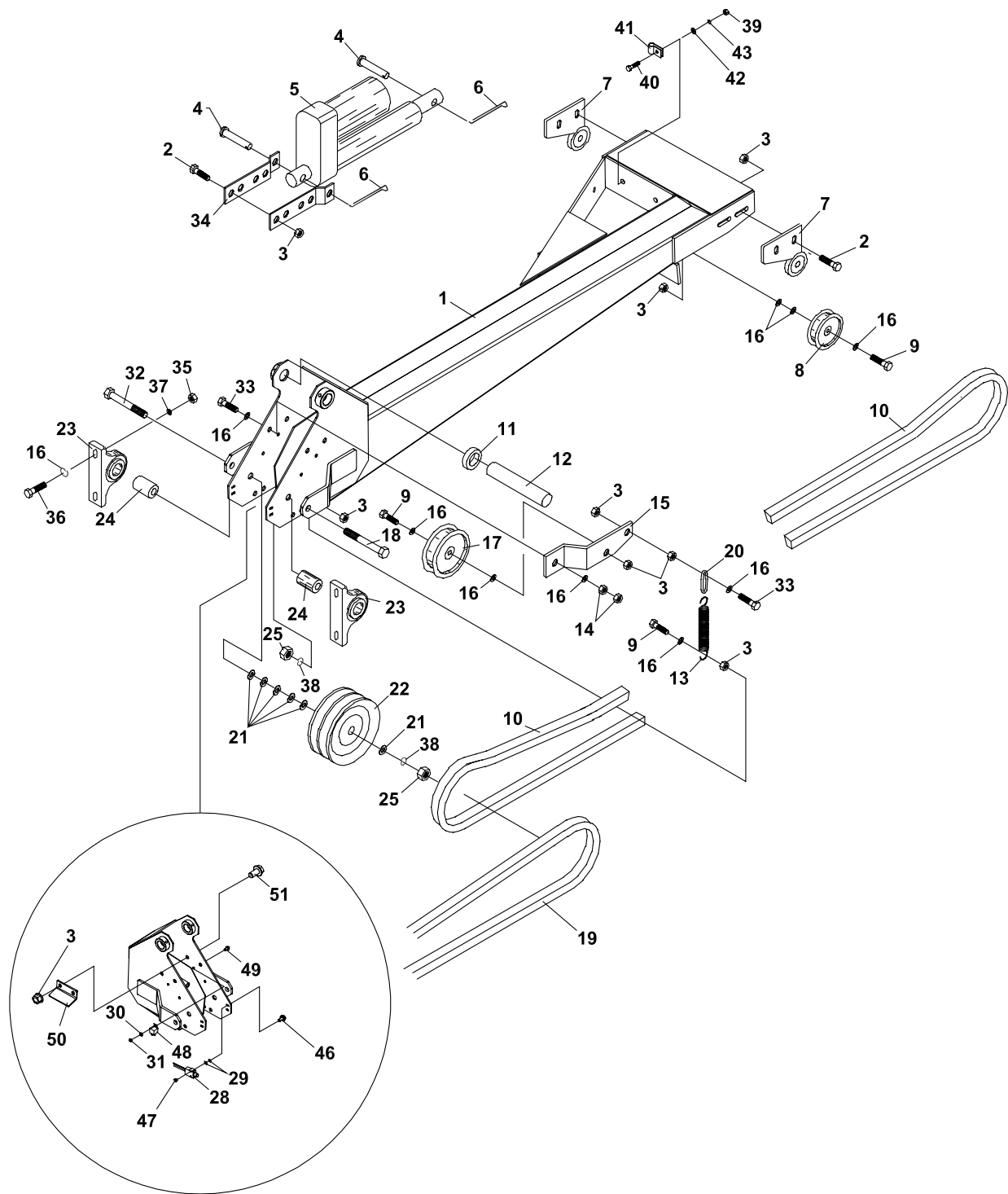
MAIN FRAME

FIGURE 1

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1-1	80-187	MOUNTING SHAFT (BEFORE SN 1025)	1	1-30	64141-6	NUT, 5/16-18	4
	80-229	MOUNTING SHAFT (AFTER SN 1024)	1	1-31	99-C0504	BOLT-5/16-18 X 1/2	2
1-2	64-262	REAR MOUNTING CLAMP	2	1-32	99-K03	ELEVATOR BOLT, 1/4 X 1	2
1-3	42-295	MOUNTING, T-HANDLE	2	1-33	64163-55	WASHER .328X.75X14	2
1-4	64-261	MOUNTING SPACER	2	1-34	64006-01	LOCKWASHER-1/4	5
1-5	62-489	MAIN FRAME (SN 1001 - 1191)	1	1-35	64025-01	NUT-1/4-20 HEX	5
	4134066.7	MAIN FRAME (SN 1192 -)	1	1-36	44-074	PAD, RUBBER, 3/8 X 1" X 6"	1
	56-043	TRIM, TRIM-LOCK, RUBBER	1	1-37	11-015	WIRECLIP-9/32 BOLTX3/8ID	3
1-6	62-493	WEIGHT (SN 1001 - 1191)	4	1-38	64123-89	BOLT-HEX 1/4-20X3/4	3
	62-540	WEIGHT (SN 1192 -)	4	*	00-093	DECAL	1
1-7	64025-09	HEX, NUT 1/2-13	2	*	00-092	DECAL-HANDS & FEET	1
1-8	64163-67	WASHER-.516X1X12GA	2	*	00-025	DECAL	1
1-9	60-327	ACCESS COVER	1	*	4116761	LABEL-MADE IN USA	1
1-10	64-260	CYLINDER ANCHOR	1	1-39	25-2103-6-6	90-M/M 9/16 JIC x 3/8	2
1-11	80-184	PIN	1	1-40	20-020	HOSE, 1/4 X 44	2
1-12	64123-70	BOLT-HEX 3/8-16X1-1/2	1	1-41	25-0103-4-6	FTG-9/16 JIC x 1/4	2
1-13	64141-4	NUT-WLF 3/8-16	1	1-42	23-004	MALE QUICK COUPLER	2
1-14	4132928	EYEBOLT	1	1-43	47-090	LATCH	1
1-15	41-044	SPRING	1	1-44	04-007	POP RIVET, 1/8 X 1/4	4
1-16	23-039	CYLINDER, 2 X 16 ENERGY	1	1-45	64-907	WEIGHT RETAINING STRAP	1
*	21-0A001665	SEAL KIT	1	1-46	02-PP0313	PIN, 3/16 x 1.5/8	1
1-17	64-269	STAND	2				
1-18	03-0616	CLEVIS PIN, 3/8 X 2	2				
1-19	02-PP0420	PRESTO PIN, 1/8 X 2-9/16	2				
1-20	64163-61	WSHR .81X.406X16GA (USED ON 420/430 ONLY)	1				
1-21	85-SC06	SPACER-3/8 SET COLLAR (USED ON 420/430 ONLY)	1				
1-22	64-463.7	SHIELD	1				
1-23	60-462.7	DRIVE SHAFT SHIELD	1				
1-24	64-491	GUARD, DRIVE ASSEMBLY	1				
1-25	64006-05	LOCKWSHR-HELICAL 1/2	2				
1-26	42-306	TRANSPORT ROD (SN 1001 - 1191)	1				
	64-908	TRANSPORT ROD (SN 1192 -)	1				
1-27	99-E18	WING NUT, 3/8-16	1				
1-28	64139-21	BLT-WLF 3/8-16X3/4	1				
1-29	02-CP0612	COTTER PIN, 3/16 X 1-1/2	2				

* NOT ILLUSTRATED

FIGURE 2



BOOM MOWER

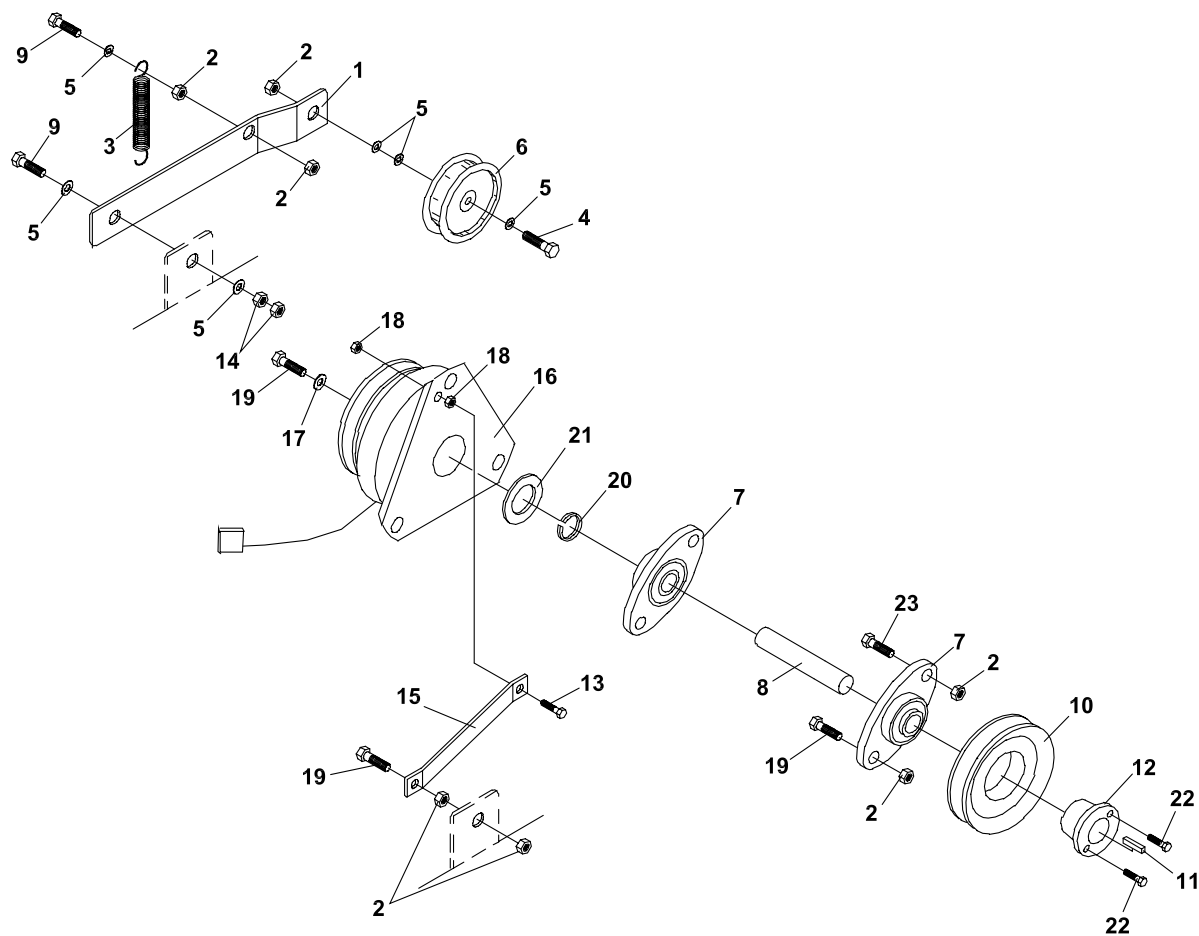
BOOM PARTS

FIGURE 2

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
2-1	4134065.7	BOOM MOWER	1	2-49	64152-05	BOLT	1
2-2	64139-24	BLT-WLF 3/8-16 X 1	6	2-50	4134500	COVER-BRACKET	1
2-3	64141-4	NUT-WLF 3/8-16	13	2-51	64139-21	BLT-WLF 3/8-16X3/4	2
2-4	03-0816	CLEVIS PIN, 1/2 X 2	1	*	00-052	DECAL	2
2-5	37-014	ACTUATOR (4")	1	*	00-092	DECAL	1
2-6	64140-1	COTTER PIN-1/8X1	2				
2-7	64-264	SWIVEL BALL BRACKET	2				
2-8	83-016	IDLER PULLEY	1				
2-9	64123-87	BOLT-HEX 3/8-16X1-3/4	3				
2-10	81-A120	BELT	1				
2-11	85-SC16	SET COLLAR	1				
2-12	80-186	PIN, BOOM CYLINDER	1				
2-13	41-020	SPRING	1				
2-14	64025-05	NUT-3/8-16 HEX	2				
2-15	40-168	IDLER ARM, BOOM	1				
2-16	64163-61	WSHR .81X.406X16GA	13				
2-17	83-013	IDLER, FLAT	1				
2-18	64123-31	BOLT-1/2-13X3 HEX	1				
2-19	81-A086	BELT, A86 HY-T	1				
2-20	006272	LINK-STOP	1				
2-21	64163-67	WASHER-.516X1X12GA	6				
2-22	83-026	PULLEY, 2GR IDLER	1				
2-23	55-PB22016	PILLOW BLK BRG	2				
2-24	80-185	PIVOT BUSHING	2				
2-25	64025-09	HEX, NUT 1/2-13	2				
2-26	* 48228A	CABLE CLIP	1				
2-27	* 30-047	BODY 4 FEMALE TERM	1				
2-28	4133125	PROXIMITY SENSOR	1				
2-29	64163-86	WASHER	4				
2-30	120052	LOCKWASHER	1				
2-31	64025-14	NUT-HEX #10-32	1				
2-32	64123-166	BLT-HEX 1/2-13X5-1/2	1				
2-33	64123-16	BLT-HEX 3/8-16X1-1/4	2				
2-34	64-263	ACTUATOR ANCHOR	2				
2-35	99-E23	HIGH NUT, 3/8-24	4				
2-36	91-0612	BOLT, 3/8-24 X 1-1/2	4				
2-37	64006-03	LOCKWASHER-3/8	4				
2-38	64006-05	LOCKWSHR-HELICAL 1/2	2				
2-39	64025-01	NUT-1/4-20 HEX	2				
2-40	64123-89	BOLT-HEX 1/4-20X3/4	2				
2-41	11-015	WIRECLIP	1				
2-42	64163-55	WASHER .328X.75X14	2				
2-43	64006-01	LOCKWASHER-1/4	2				
2-44	* 64025-29	NUT-HEX #8-32 KEPS	1				
2-45	* 64152-57	SCREW-MACH #8-32X3/8	1				
2-46	64152-31	#6-32X1-1/8 RD HD SLOT	2				
2-47	64025-26	NUT	2				
2-48	35-067	RELAY	1				

* NOT ILLUSTRATED

FIGURE 3



BOOM MOWER

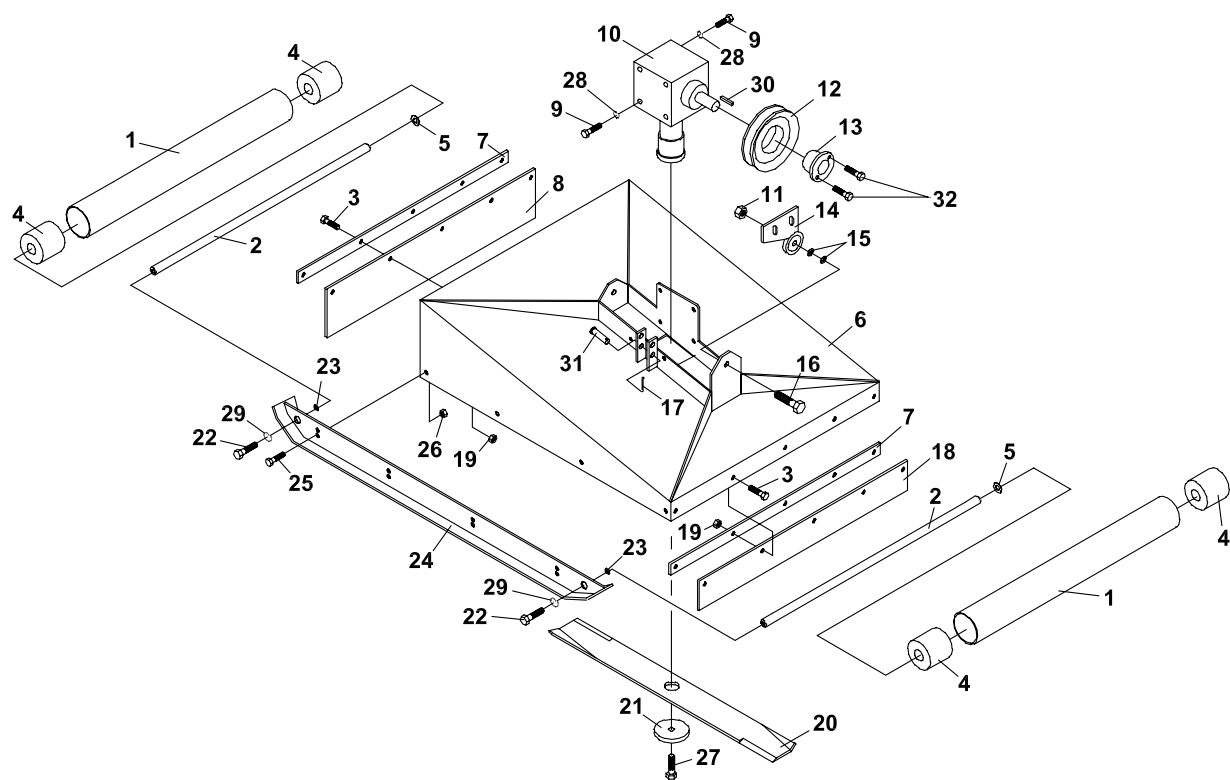
CLUTCH PARTS

FIGURE 3

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
3-1	40-167	IDLER ARM, MAIN	1				
3-2	64141-4	NUT-WLF 3/8-16	9				
3-3	41-020	SPRING	1				
3-4	64123-87	BOLT-HEX 3/8-16X1-3/4	1				
3-5	64163-61	WSHR .81X.406X16GA	6				
3-6	83-013	IDLER, FLAT	1				
3-7	55-FB23016	FLANGE BRG 2 BOLT 1"	2				
3-8	80-188	SHAFT, DRIVE	1				
3-9	64123-16	BLT-HEX 3/8-16X1-1/4	2				
3-10	83-BK50H	PULLEY	1				
3-11	64164-10	1/4X1/4X1-1/4 MACH KEY	1				
3-12	83-H16	BUSHING	1				
3-13	99-K02	BOLT, FLANGE 5/16-18 X 1	1				
3-14	64025-05	NUT-3/8-16 HEX	2				
3-15	40-166	TORQUE ARM, CLUTCH	1				
3-16	35-046	ELECTRIC CLUTCH	1				
3-17	64-692	WASHER	1				
3-18	64141-6	NUT, 5/16-18	2				
*	81-A040	DRIVE BELT-A40	1				
3-19	64139-24	BLT-WLF 3/8-16 X 1	5				
3-20	04-011	SNAP RING	1				
	(SN 1053 -)						
3-21	99-B15	WASHER-MACH 1" ID 10 GA	1				
	(SN 1053 -)						
3-22	64123-114	BOLT-HEX 1/4-20X1	2				
3-23	64139-18	BLT-WLF 3/8-16X1-1/4	1				

* NOT ILLUSTRATED

FIGURE 4



BOOM MOWER

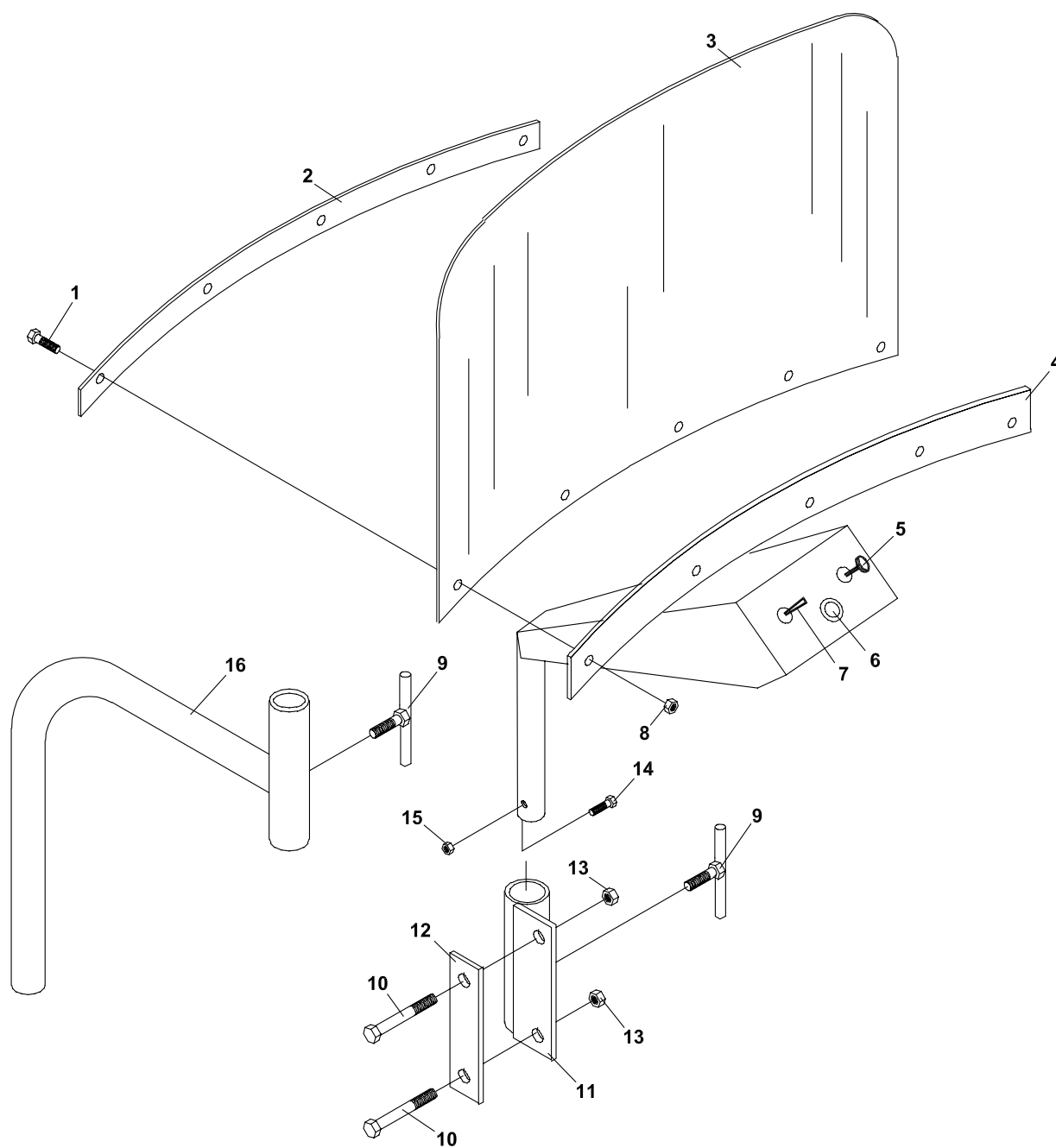
DECK PARTS

FIGURE 4

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
4-1	50-038.7	ROLLER, BOOM MOWER	2				
4-2	50-039	ROLLER, SHAFT	2				
4-3	64139-08	BOLT-5/16-18X3/4	10				
4-4	85-B11	WOOD BEARING 3/4" BORE	4				
4-5	64163-57	WASHER	4				
4-6	62-491.7	BOOM MOWER DECK	1				
4-7	64-265.7	RETAINER STRAP	2				
4-8	44-072	BELTING, FRONT	1				
4-9	64123-16	BLT-HEX 3/8-16X1-1/4 (QTY 4 USED ON SN 1001 - 1277) (QTY 6 USED ON SN 1278 -)					
4-10	87-110	GEARBOX	1				
4-11	99-A10	LOCKNUT	2				
4-12	83-BK50H	PULLEY	1				
4-13	83-H16	BUSHING	1				
4-14	64-264.7	SWIVEL BALL BRACKET	2				
4-15	64163-16	WASHER-41/64X1, 3/8X12	3				
4-16	90-1016	BOLT, 5/8-11 X 2	2				
*	00-092	DECAL-HANDS AND FEET	5				
4-17	64140-1	COTTER PIN-1/8X1	1				
4-18	44-073	BELTING, REAR	1				
4-19	64141-6	NUT, 5/16-18	10				
4-20	79-045	BLADE, LOW LIFT 24"	1				
4-21	99-B14	WASHER, SPECIAL	1				
4-22	90-0808	BOLT	4				
4-23	64163-67	WASHER-.516X1X12GA	4				
4-24	78-028.7	DECK RUNNERS	2				
4-25	64139-21	BLT-WLF 3/8-16X3/4	8				
4-26	64141-4	NUT-WLF 3/8-16	8				
4-27	64123-39	BOLT-HEX 1/2-13X1-1/4	1				
4-28	64006-03	LOCKWASHER-3/8 (QTY 4 USED ON SN 1001 - 1277) (QTY 6 USED ON SN 1278 -)					
4-29	64006-05	LOCKWSHR-HELICAL 1/2	4				
4-30	64164-10	1/4X1/4X1-1/4 MACH KEY	1				
4-31	03-0816	CLEVIS PIN, 1/2 X 2	1				
4-32	64123-114	BOLT-HEX 1/4-20X1	2				

* NOT ILLUSTRATED

FIGURE 5



BOOM MOWER

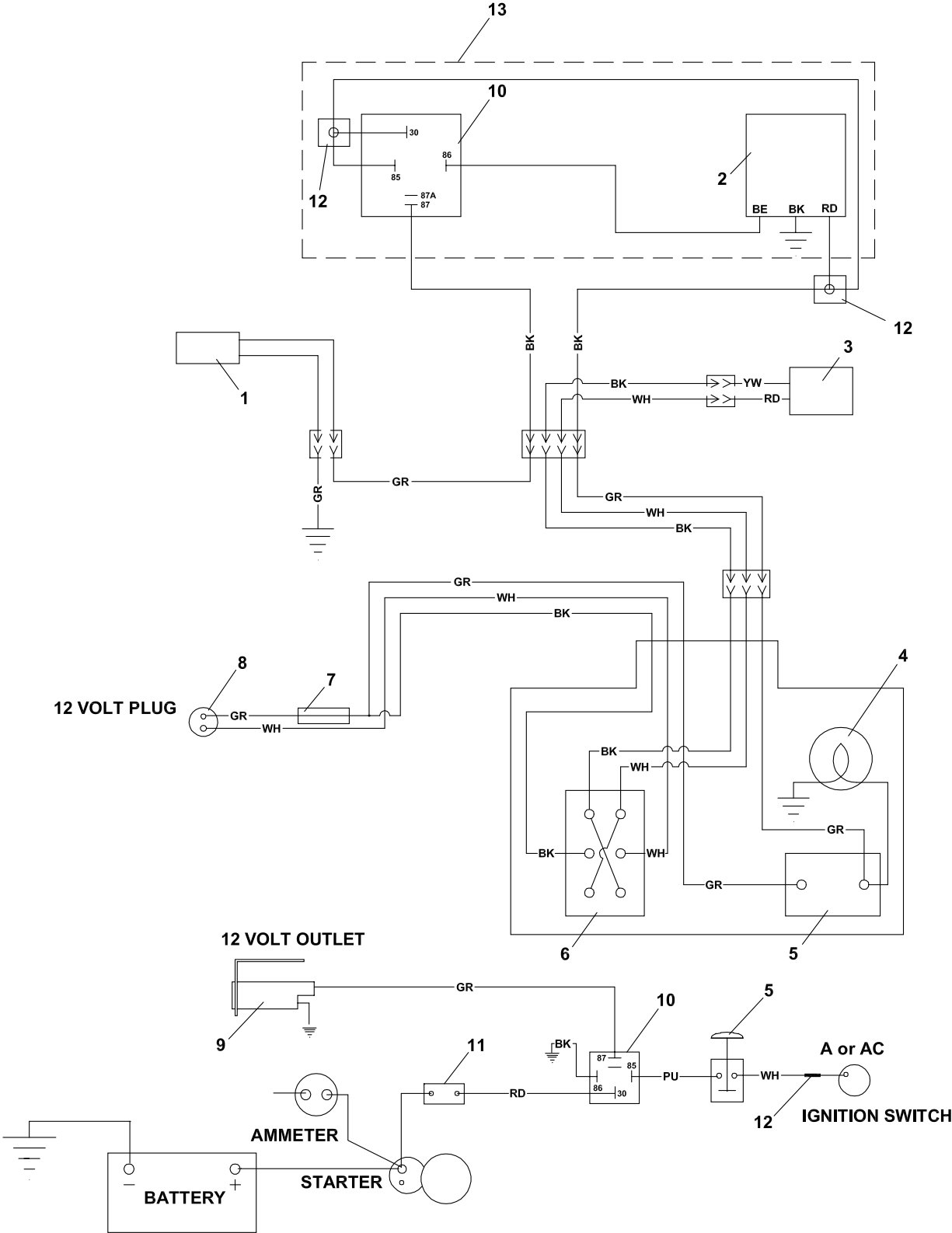
CONTROL PANEL

FIGURE 5

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
5-1	99-K02	BOLT, FLANGE 5/16-18 X 1	5				
5-2	64-267.7	WINDSHIELD RETAINER	1				
5-3	06-019	WINDSHIELD, LEXAN	1				
5-4	62-492.7	CONTROL PANEL & SHIELD	1				
5-5	31-064	SWITCH, PUSH/PULL LIGHT	1				
5-6	33-007	PILOT LIGHT ASSY	1				
5-7	31-009	TOGGLE SWITCH	1				
5-8	64141-6	NUT, 5/16-18	5				
5-9	42-296	CONTROL, T-HANDLE	2				
5-10	64123-75	BOLT, 3/8-16X3 HEX	2				
5-11	64-266.7	CONTROL MOUNTING TUBE	1				
5-12	64-268.7	POST CLAMP PLATE	1				
5-13	64141-4	NUT-WLF 3/8-16	2				
*	00-053	DECAL, CONTROL PANEL	1				
5-14	64123-49	BLT-HEX 1/4-20X1/2	1				
5-15	64141-2	NUT-WLF 1/4-20	1				
5-16	64-579.7	BRACKET, CONTROL	1				
	(SN 1053 -)						

* NOT ILLUSTRATED

FIGURE 6



BOOM MOWER

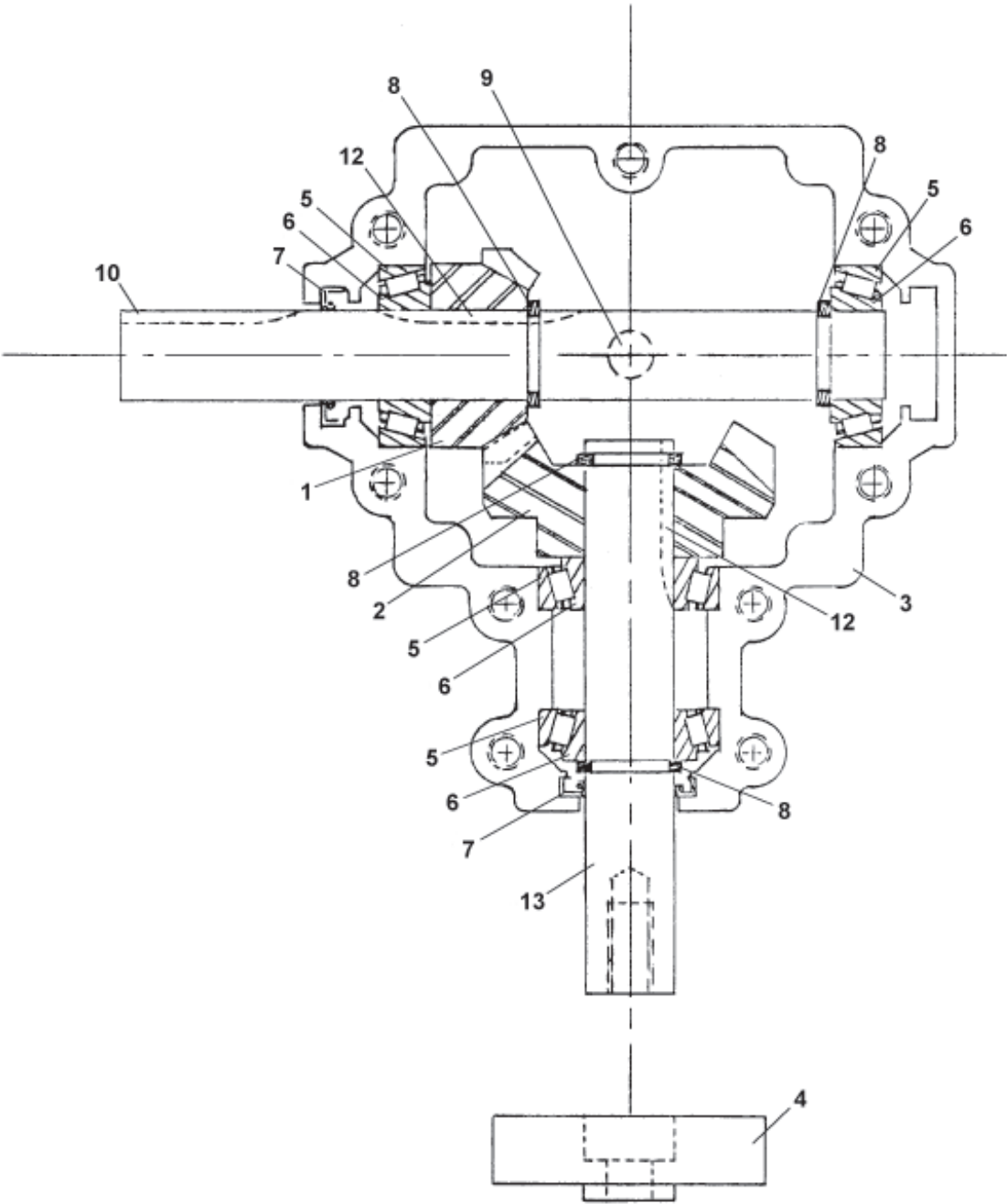
ELECTRICAL

FIGURE 6

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
6-1	35-046	ELECTRIC CLUTCH	1				
6-2	4133125	SWITCH	1				
6-3	37-014	ACTUATOR (4")	1				
6-4	33-027	PILOT LIGHT ASSY	1				
*	33-026	BULB	1				
*	33-027	LENS	1				
6-5	31-064	SWITCH, PUSH/PULL LIGHT	2				
	30-376	NO. 8 STUD	4				
6-6	31-009	TOGGLE SWITCH	1				
6-7	35-041	FUSE-30 AMP	1				
6-8	30-117	PLUG-MALE	1				
*	30-111	CONNECTOR ASSY	1				
6-9	30-116	PLUG-FEMALE	1				
6-10	35-067	RELAY-SEALED PLASTIC	2				
6-11	30-114	BREAKER-CIRCUIT 20 AMP	1				
6-12	30-095	SPLICE CONNECTOR	4				
6-13	4134021	HARNESS	1				
*	30-004B	FEMALE SPADE TERMINAL	1				
*	30-004D	1/4 EYE TERMINAL	1				
*	30-109	WIRING HARNESS (SN 1001 - 1096)	1				
*	30-124	WIRING HARNESS (SN 1097 -)	1				
*	30-043	FUSE HOLDER	1				

* NOT ILLUSTRATED

FIGURE 7



BOOM MOWER

GEARBOX

FIGURE 7

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
7-1	87-251016	GEAR-16 TOOTH	1				
7-2	87-251024	GEAR-24 TOOTH	1				
7-3	87-210001-13	CASTING-THRD HOLES	1				
*	87-210002-13	CASTING-THRU HOLES	1				
7-4	87-200101-02	BLADE ADAPTER	1				
7-5	87-244610	BEARING CUP	4				
7-6	87-244643	BEARING CONE	4				
7-7	87-209843	SEALS	2				
7-8	87-203293	RETAINING RING	4				
7-9	87-200300	PIPE PLUG-1/4 NPT	1				
*	87-2003VB	BUSHING-PLAIN 1/4 NPT	1				
7-10	87-200111-101	SHAFT-CROSS	1				
7-11	87-2003PR	PRESSURE RELIEF	1				
7-12	87-200200	KEY	2				
*	87-203815	BOLT-3/8-16X1-1/2	9				
7-13	87-200100-49	SHAFT-PINION	1				

* NOT ILLUSTRATED

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Equipment from Jacobsen, a Textron company, is built to exacting standards ensured by ISO 9001 and ISO 14001 registration at all our manufacturing locations.

A worldwide dealer network and factory-trained technicians backed by Textron Parts Xpress provide reliable, high-quality product support.



BOB-CAT BROUWER BUNTON CUSHMAN RYAN STEINER