HARDWARE KEY



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SECTION 1
BEVEL GEARBOX

SPECIFICATIONS

Output shaft rolling torque ..... 8 in. lbs.-14 in. lbs.

Input shaft and output shaft combined rolling torque ..... 15 in. lbs.-25 in. lbs.

Gear backlash ..... 0.006"-0.015" (0.15 mm-0.38)

Oil capacity--

Bevel gearbox ..... 4 qt. (3.8 L)

Reversing gearbox ..... 8 qt. (7.6 L)

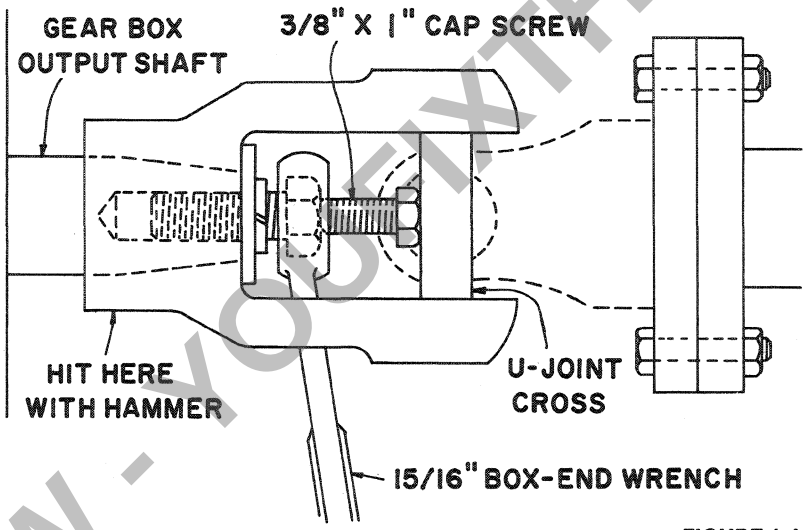


FIGURE 1-1

REMOVAL

The bevel gearbox cannot be removed without removing the reversing gearbox. Removal is easier if the reversing gearbox and bevel gearbox are removed as an assembly.

1. Remove the blower fan assembly. See "Blower" for removal instructions.
2. Remove the cutterhead drive shaft.
   a. Shear bolt drive - Remove the U-joint assembly from the gearbox shaft as shown in Figure 1-1.
   b. Slip clutch drive - Remove the four mounting bolts, A, Figure 1-2. Remove the clutch now or wait until the gearbox is out of the machine.

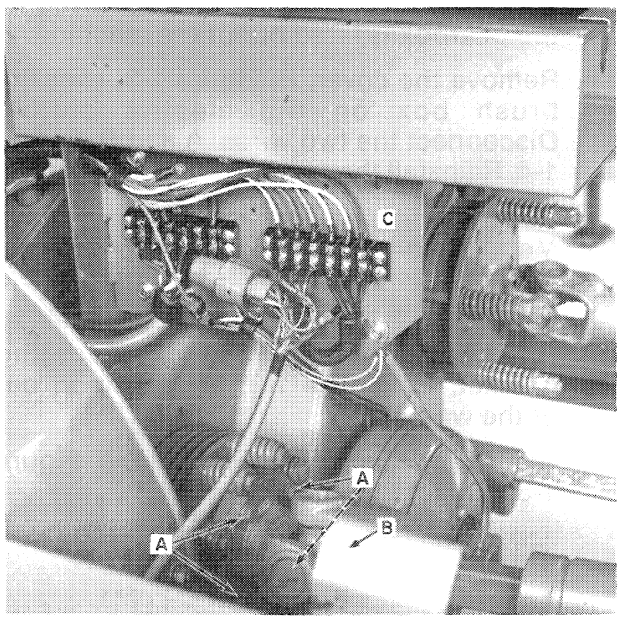


FIGURE 1-2

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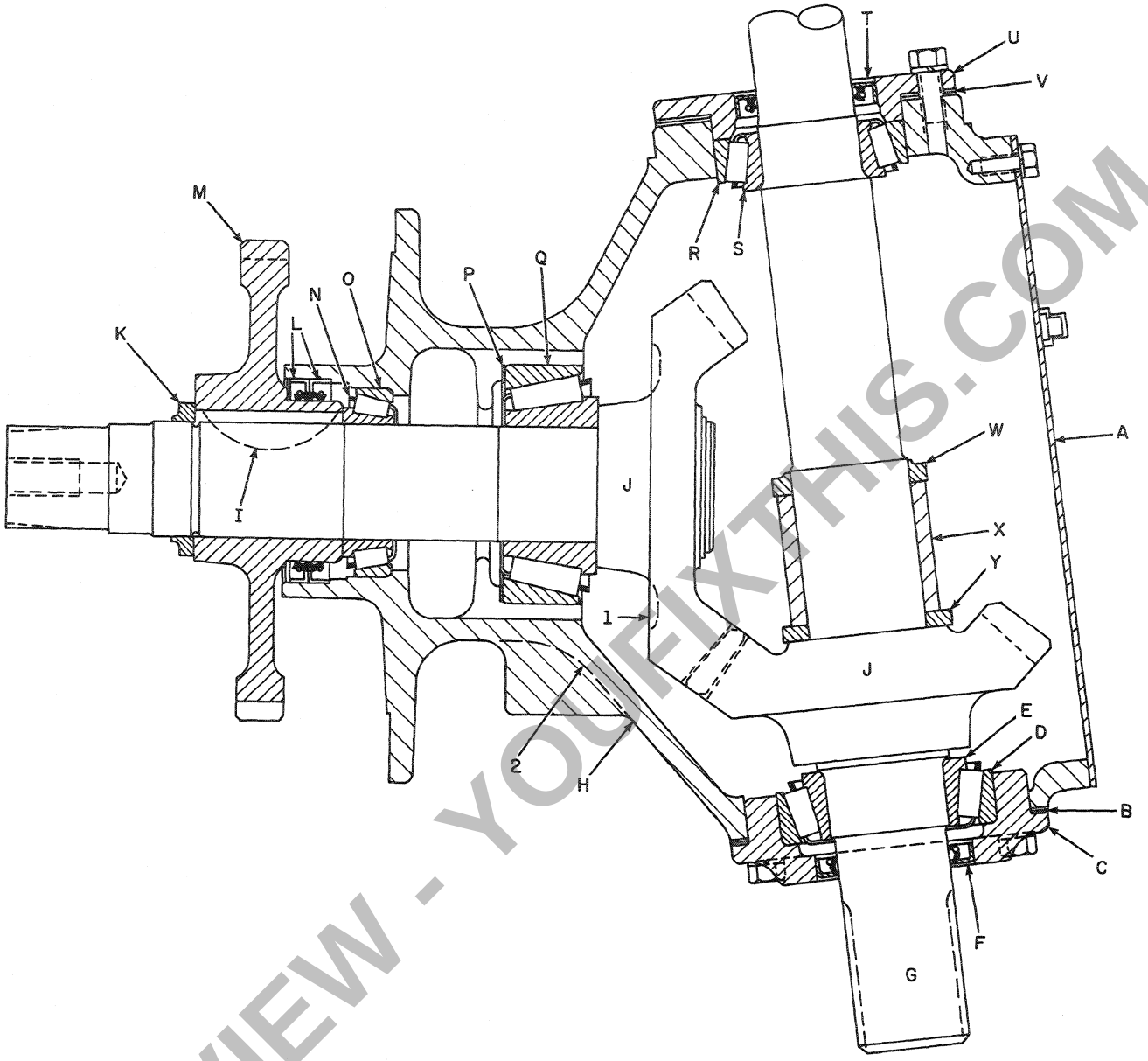


FIGURE 1-9

Figure 1-9
BEVEL GEARBOX

A	Cover	J	Gear set	S	Bearing cone
B	Shims	K	State nut	T	Seal
C	Bearing cap	L	Seal - 2	U	Bearing cap
D	Bearing cup	M	Gear	V	Shims
E	Bearing cone	N	Bearing cone	W	Stake nut
F	Seal	O	Bearing cup	X	Spacer
G	Input shaft	P	Shims	Y	Spacer
H	Housing	Q	Bearing assembly	1	Output gear code
I	Woodruff key	R	Bearing cup	2	Housing code

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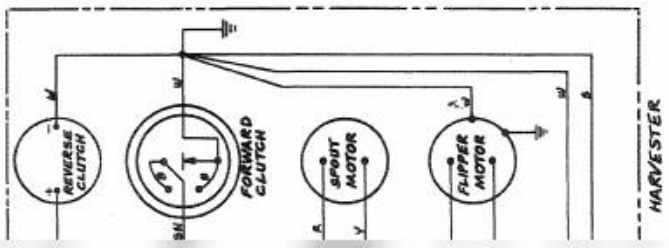


FIGURE 10-5

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TROUBLESHOOTING

Troubleshooting is divided into three sections--spout motor and deflector motor, basic, and Metalert II.

Each section consists of a series of simple tests, in blocks, or observations that must be done in sequence. Each test or observation has two or three possible outcomes. Each outcome is followed by an additional test observation or possible cause of failure.

The following test tools are required:

1. 12-volt test lamp
2. Two short pieces of wire
3. Volt-ohm meter
4. Metalert electronic metal detector test set

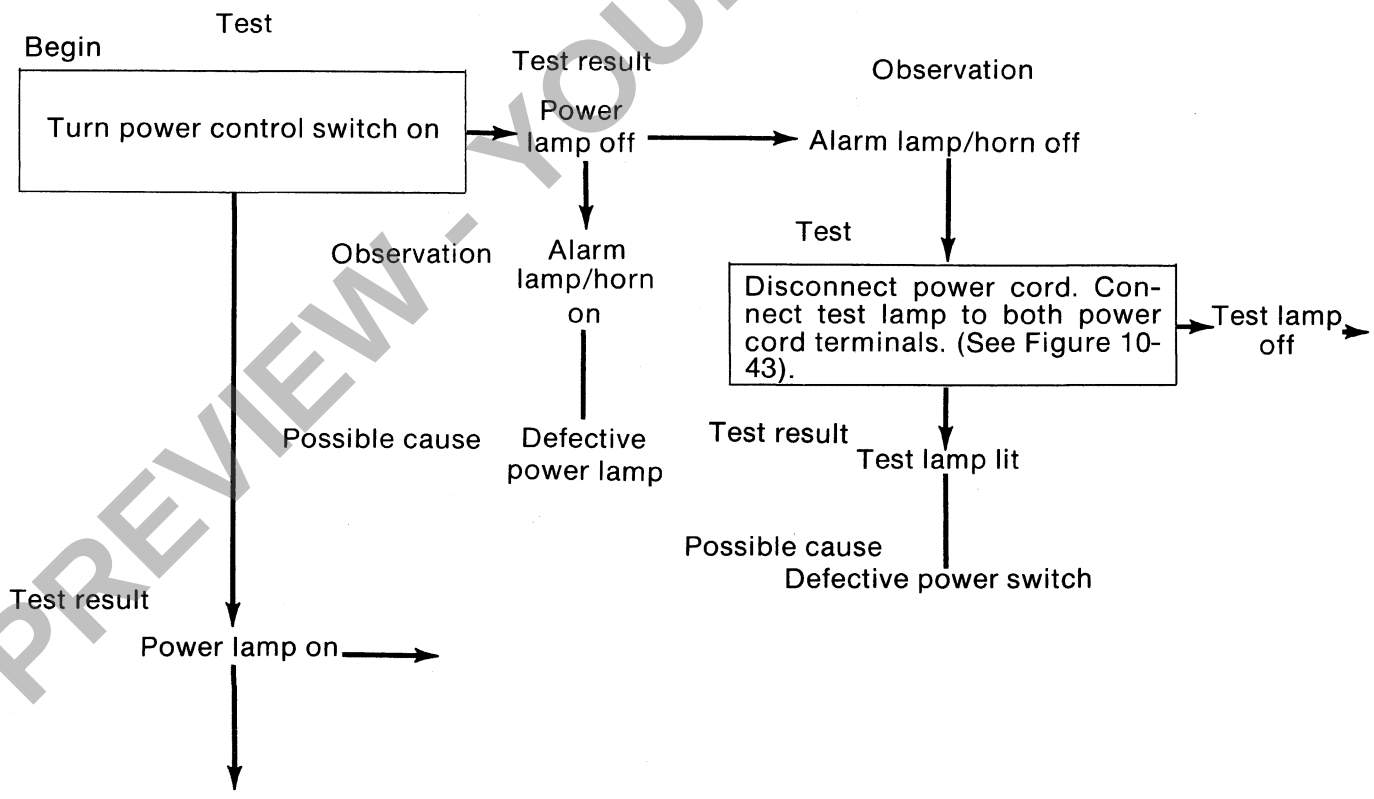
To use the guide, do the first test. Follow the arrow to the test result or observation made.

NOTE: Before using the guide, become familiar with the location of the components on the machine. Refer to components in "Normal System Operation".

From the observation, follow the arrow to the next observation or test. Continue this procedure until a possible cause of failure is suggested. A straight line without an arrow precedes a possible cause. Correct the cause of failure and then return to the start of the troubleshooting guide. When finished correcting all problems and checking the system using the guide, the outcome will be "system OK".

IMPORTANT: Do not skip a test.

EXAMPLE:



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SAFETY

YOUR SAFETY IS OF UTMOST CONCERN TO FORD NEW HOLLAND. PLEASE FOLLOW THE SAFETY RULES LISTED, NOT ONLY FOR YOUR OWN GOOD, BUT FOR THE PEOPLE AROUND YOU.

1. DO NOT ALLOW CHILDREN OR BYSTANDERS AROUND THE MACHINE WHILE IT IS BEING ADJUSTED, SERVICED, OR OPERATED.
2. ALWAYS USE A SAFETY STAND IN CONJUNCTION WITH HYDRAULIC JACKS OR HOISTS. DO NOT RELY ON THE JACK OR HOIST TO HOLD THE LOAD COMPLETELY AS THEY COULD FAIL.
3. ALWAYS WEAR SAFETY GOGGLES WHEN USING A HAMMER, CHISEL, OR OTHER TOOLS THAT MAY CAUSE CHIPS TO FLY OFF THE WORK.
4. KEEP WORK ORGANIZED AND CLEAN. WIPE UP OIL SPILLS TO MINIMIZE THE POSSIBILITY OF A FALL. KEEP TOOLS AND PARTS OFF THE FLOOR TO FURTHER REDUCE THE POSSIBILITY OF SERIOUS INJURY.
5. BE SURE TO REINSTALL SAFETY DEVICES, SUCH AS GUARDS OR SHIELDS, AFTER ADJUSTING OR SERVICING THE HARVESTER.
6. AFTER SERVICING THE HARVESTER, BE SURE ALL TOOLS, PARTS, OR SERVICING EQUIPMENT ARE REMOVED FROM THE MACHINE.
7. WHEN USING A GAS TORCH, ALWAYS WEAR WELDING GOGGLES AND GLOVES. KEEP A FULLY-CHARGED FIRE EXTINGUISHER WITHIN REACH. DO NOT HEAT OR WELD NEAR A FUEL TANK OR FUEL LINES, AND UTILIZE PROPER SHIELDING AROUND HYDRAULIC LINES.
8. HYDRAULIC FLUID ESCAPING UNDER PRESSURE CAN HAVE SUFFICIENT FORCE TO PENETRATE THE HUMAN SKIN. HYDRAULIC FLUID MAY INFECT A MINOR CUT OR OPENING IN THE SKIN. IF INJURED BY ESCAPING HYDRAULIC FLUIDS, SEE A DOCTOR AT ONCE. DO NOT ATTEMPT TO REPAIR OR TIGHTEN HOSES THAT ARE UNDER PRESSURE. CYCLE ALL HYDRAULIC CONTROL VALVES TO RELIEVE ALL PRESSURE BEFORE DISCONNECTING THE LINES OR BEFORE PERFORMING OTHER WORK ON THE HYDRAULIC SYSTEM. MAKE SURE ALL CONNECTIONS ARE TIGHT AND HOSES AND LINES ARE IN GOOD CONDITION BEFORE APPLYING PRESSURE TO THE SYSTEM. TO LOCATE A LEAK UNDER PRESSURE, USE A SMALL PIECE OF CARDBOARD. NEVER USE YOUR HANDS.
9. USE PULLERS TO REMOVE BEARINGS, BUSHINGS, ETC. USE HAMMERS, PUNCHES, AND CHISELS ONLY WHEN ABSOLUTELY NECESSARY, AND BE SURE TO WEAR SAFETY GOGGLES.
10. BE CAREFUL WHEN USING COMPRESSED AIR. USE APPROVED AIR BLOW GUNS, DO NOT EXCEED 35 PSI (2.4 BAR), WEAR SAFETY GOGGLES, AND USE PROPER SHIELDING TO PROTECT EVERYONE IN THE WORK AREA.
11. DO NOT WEAR RINGS, WRIST WATCHES, OR LOOSE-FITTING CLOTHING WHEN WORKING ON MACHINERY, AS THEY COULD CATCH ON MOVING PARTS AND CAUSE SERIOUS INJURY.

THE ABOVE IS ONLY A PARTIAL LIST OF SAFETY WORK RULES. ALWAYS REFER TO THE OPERATOR'S MANUAL FOR ADDITIONAL SAFETY WORK RULES REGARDING THIS MACHINE.

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PRECAUTIONARY STATEMENTS

PERSONAL SAFETY

Throughout this manual and on machine decals, you will find precautionary statements ("CAUTION", "WARNING", and "DANGER") followed by specific instructions. These precautions are intended for the personal safety of you and those working with you. Please take the time to read them.



CAUTION: THE WORD "CAUTION" IS USED WHERE A SAFE BEHAVIORAL PRACTICE ACCORDING TO OPERATING AND MAINTENANCE INSTRUCTIONS AND COMMON SAFETY PRACTICES WILL PROTECT THE OPERATOR AND OTHERS FROM ACCIDENT INVOLVEMENT.



WARNING: THE WORD "WARNING" DENOTES A POTENTIAL OR HIDDEN HAZARD WHICH HAS A POTENTIAL FOR SERIOUS INJURY. IT IS USED TO WARN OPERATORS AND OTHERS TO EXERCISE EVERY APPROPRIATE MEANS TO AVOID A SURPRISE INVOLVEMENT WITH MACHINERY.



DANGER: THE WORD "DANGER" DENOTES A FORBIDDEN PRACTICE IN CONNECTION WITH A SERIOUS HAZARD.

FAILURE TO FOLLOW THE "CAUTION", "WARNING", AND "DANGER" INSTRUCTIONS MAY RESULT IN SERIOUS BODILY INJURY OR DEATH.

MACHINE SAFETY

Additional precautionary statements ("ATTENTION" and "IMPORTANT") are followed by specific instructions. These statements are intended for machine safety.

ATTENTION: The word "ATTENTION" is used to warn the operator of potential machine damage if a certain procedure is not followed.

IMPORTANT: The word "IMPORTANT" is used to inform the reader of something he needs to know to prevent minor machine damage if a certain procedure is not followed.

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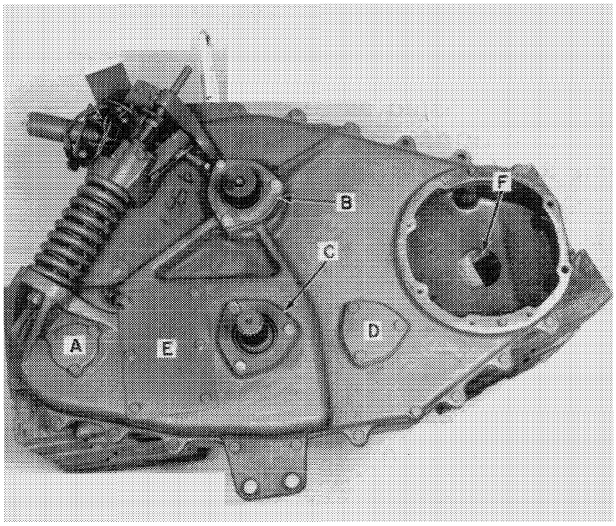


FIGURE 2-52

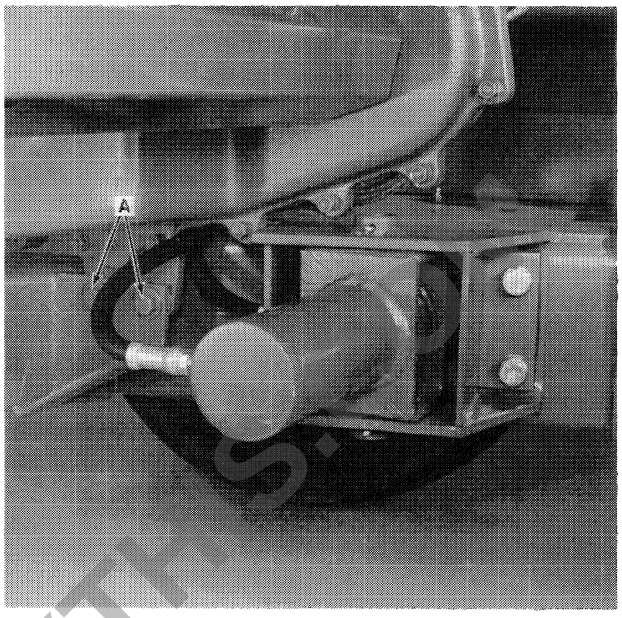


FIGURE 2-53

9. Install the bearing caps, A, B, C and D, Figure 2-52. Use shims as required to obtain 0.001"-0.004" (0.025 mm-0.01 mm) shaft end play on each shaft.

   NOTE: End play may be easier to adjust if the gearbox is supported upright by a hoist.

10. Apply a gasket replacer and install cover, E, Figure 2-52.
11. Install all seals except for the seal at F, Figure 2-52.

    NOTE: The electric clutch assembly can be installed at this time or after the gearbox is installed on the harvester. See "Electric Clutch Servicing" for installation information.

GEARBOX INSTALLATION

Installation is the reverse of removal.

1. Apply a gasket replacer to the mating surface between the reversing gearbox and bevel gearbox.
2. Securely fasten the gearboxes together before installing the hardware at A, Figure 2-53. Fill the gap between the gearbox and mounting bracket with shims and washers. Check alignment of the attachment drive shaft.
3. Install the seal at F, Figure 2-52.
4. Install the terminal block bracket.
5. Install the electric clutch assembly if not already installed.
6. Install the cutterhead drive. Use antiseize on the splined shaft.
7. Install the feed roll drives, coating all shafts with antiseize. Install all shields.
8. Install the metal detector stopping system wire harness (Metalert only).
9. Fill the gearbox with oil. Use 80W-90 GL5. Capacity is 8 qts. (7.6 L).

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When changing from six to eight knives, all but two knives with support blocks must be removed. The two knives left installed must be on opposite sides of the cutterhead but may be in any position around the cutterhead. Remount two or six knives and support blocks on the cutterhead taking care to see that all knives are equally spaced around the cutterhead. Torque support block bolts to 170 ft. lbs. (230 N·m) minimum and knife bolts to 175 ft. lbs.-200 ft. lbs. (237 N·m-270 N·m).

When changing the number of knives or replacing knives, be sure to install a baffle under each knife. See "Knife Replacement" for procedure to install knives.

KNIFE INSPECTION

Inspect the knives periodically. A rounded cutting edge on the left or trailing edge of the knife as illustrated in Figure 6-7 is usually an indication of incomplete or infrequent sharpening. The knife should always be sharpened as shown at B, Figure 6-7, across the full width of the cutterhead. Failure to do this will result in rapid knife wear.

NOTE: Rapid knife wear may be caused by a frozen shear bar adjusting mechanism.

The cutting edge of the knife is hard-surfaced on the underside. The hard-surfacing should extend to the edge of the knife.

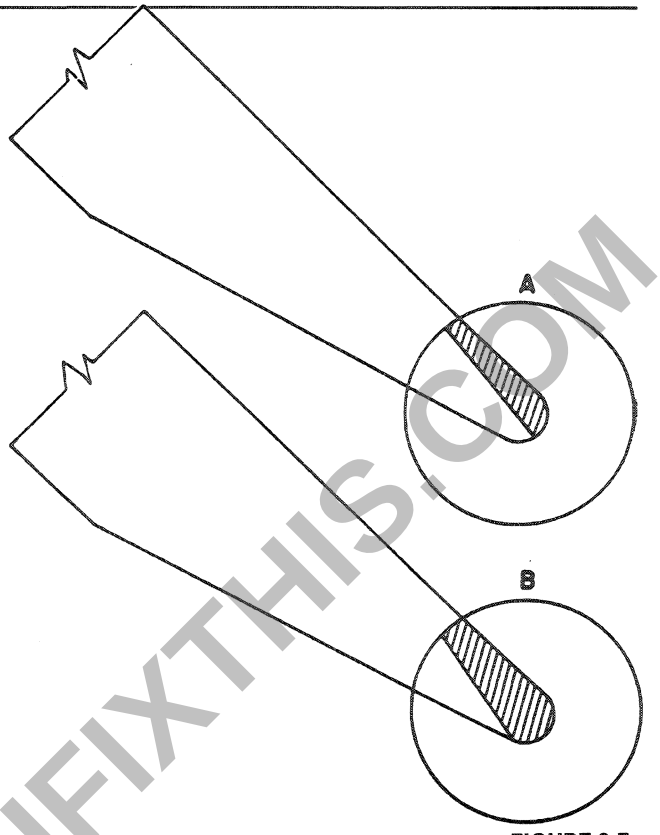


FIGURE 6-7

The hard-surfacing on the knife in Figure 6-8 is eroded due to improper bonding or surface preparation. This is a defective knife.

NOTE: Some erosion of the hard-surfacing can occur when sand is picked up along with the crop.

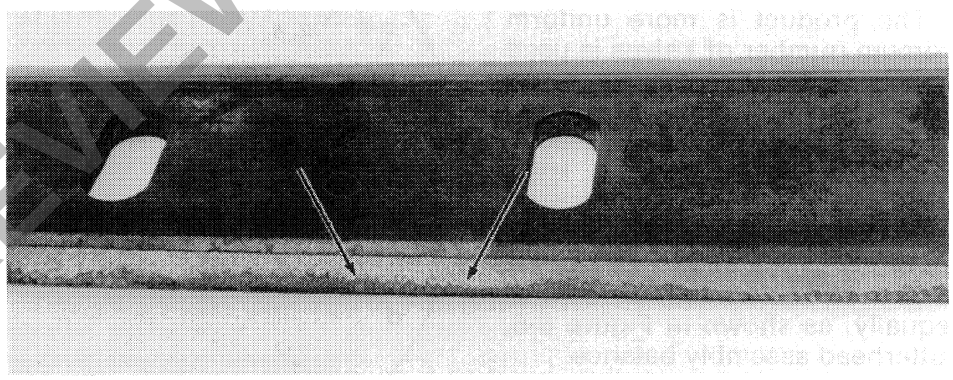
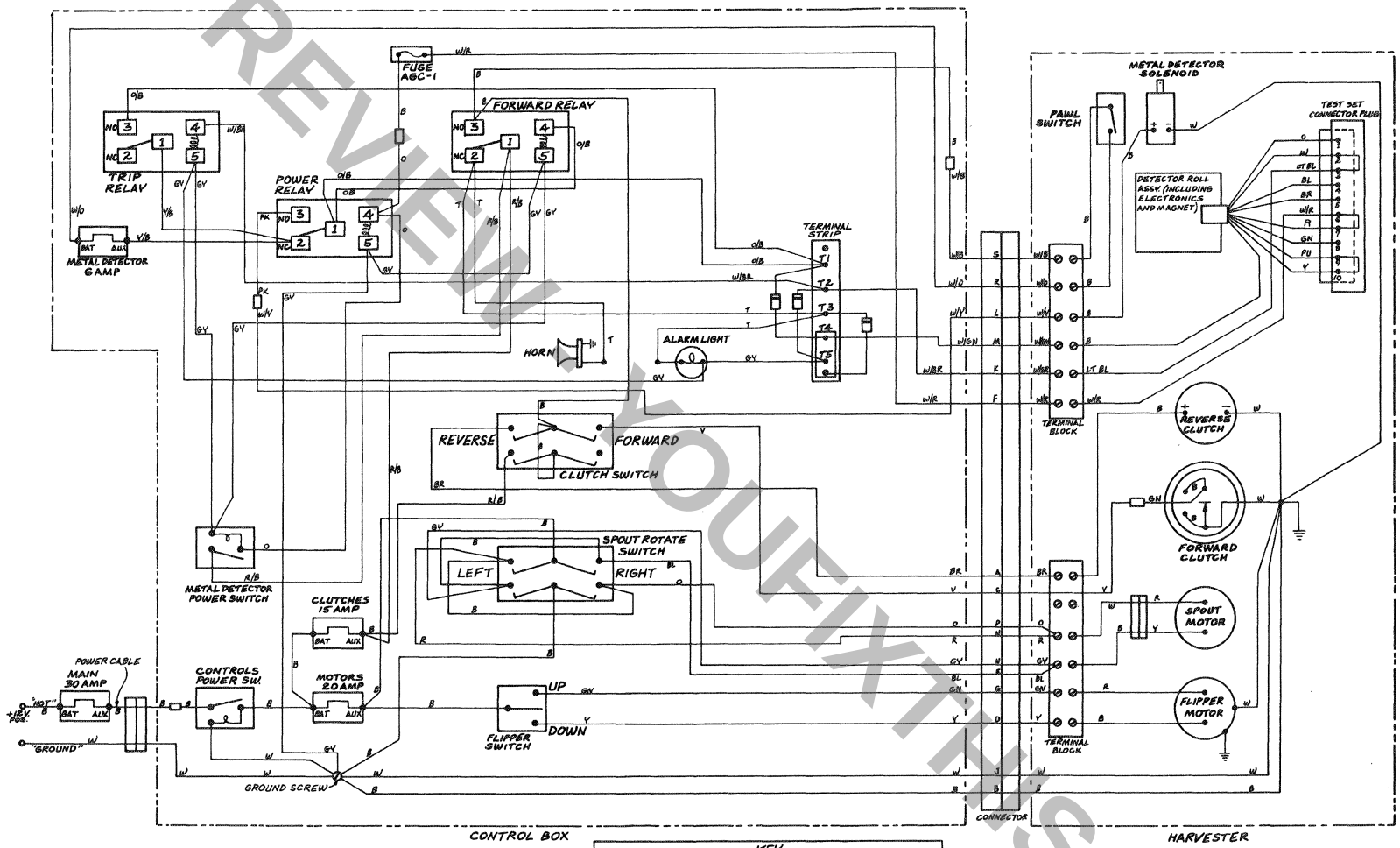


FIGURE 6-8

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KEY

CIRCUIT BREAKERS (BAT, AUX) — BULLET CONNECTORS

WIRES CROSS - NO CONNECTION — WIRES CONNECT

THE FOLLOWING ABBREVIATIONS ARE USED TO INDICATE WIRE COLOR:

BLACK	B	DARK GREEN	DKGN	PURPLE	PU
GRAY	GY	GREEN	GN	VIOLET	V
WHITE	W	LIGHT GREEN	LTGN	RED	R
DARK BLUE	DKBL	DARK BROWN	DK BR	PINK	PK
BLUE	BL	BROWN	BR	ORANGE	O
LIGHT BLUE	LTBL	TAN	T	YELLOW	Y

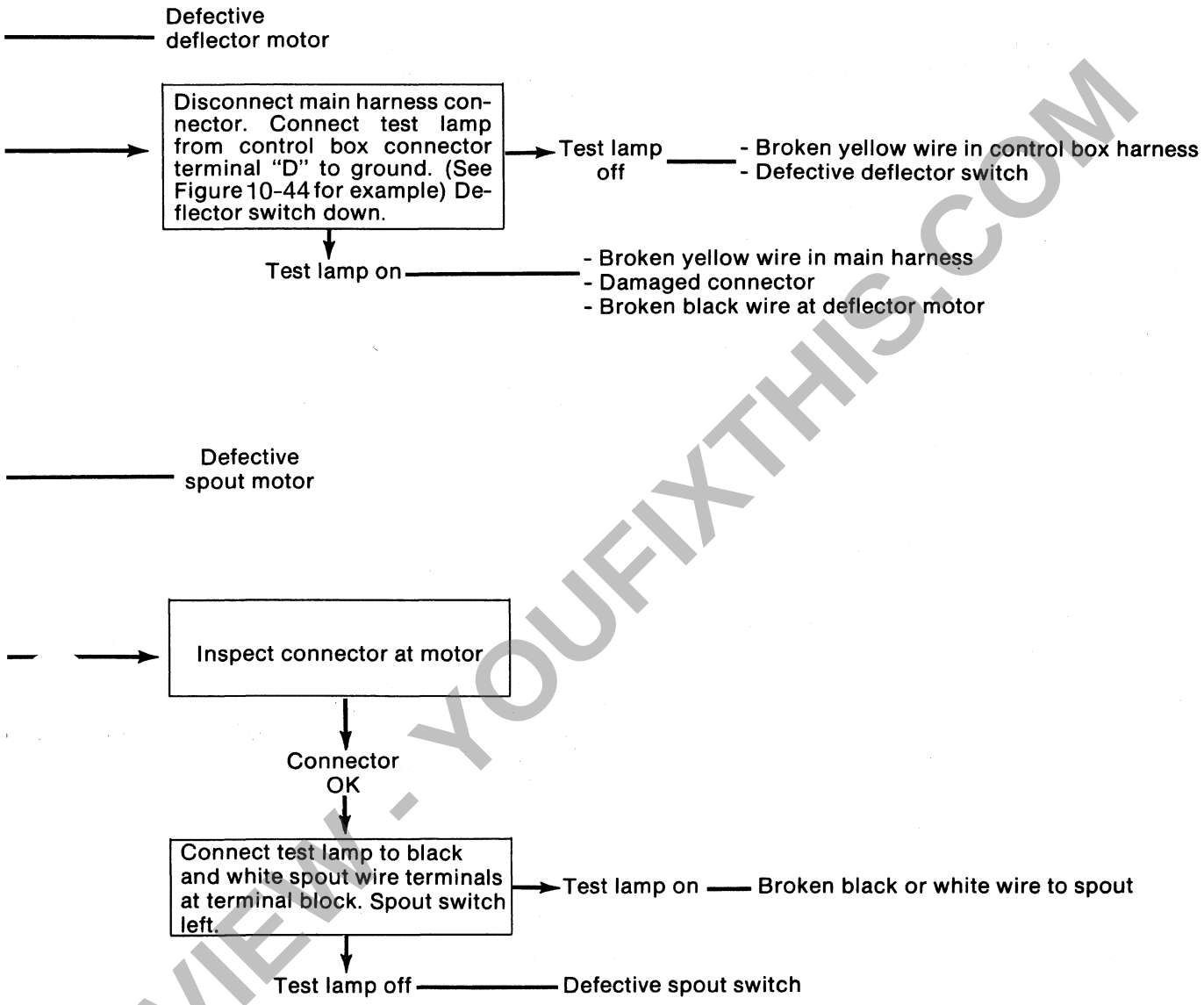
R/B RED WITH BLACK STRIPE

WIRING DIAGRAM

900 HARVESTER WITH METALERT II

FIGURE 10-6

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