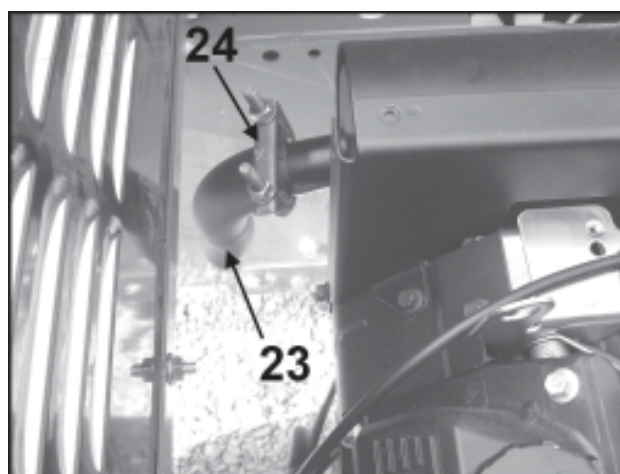
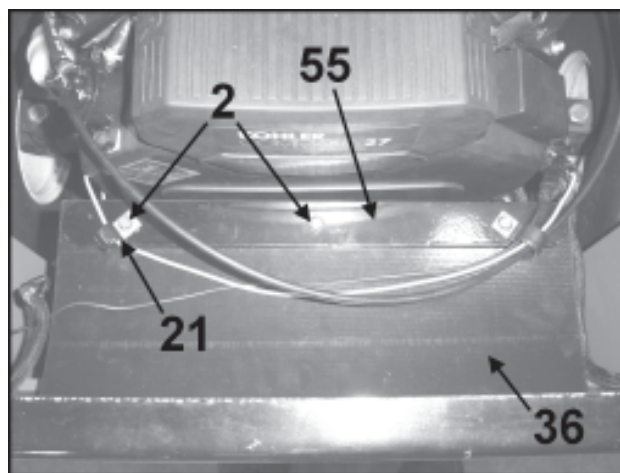
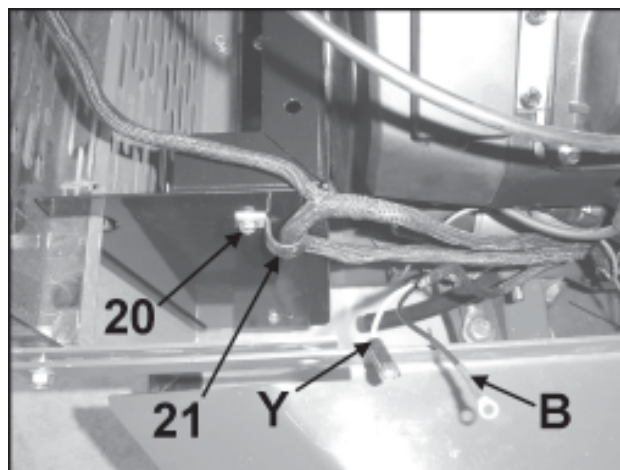


82. Reinstall the front, side, and rear panels removed in step 6.
83. Reinstall the seat assembly and driveshaft shield removed in step 4.
84. Reinstall the hood assembly removed in step 3.
85. Connect the battery cables removed in step 2.
86. Reinstall the battery side panels removed in step 1.

ITM	PART NO.	DESCRIPTION	QTY	ITM	PART NO.	DESCRIPTION	QTY
1	6126005.7	MOUNT, THROTTLE CABLE	1	31	29-044	PIPE COUPLING, 3/8 NPT	1
2	64139-04	BOLT-WLF 1/4-20X3/4	8	32	27-018	HOSE, 1/2 PUSH LOCK /FT.	1
3	64141-2	NUT-WLF 1/4-20	12	33	13-075	VALVE, OIL DRAIN 3/8 NPT	1
4	64123-114	BOLT-HEX 1/4-20X1	1	34	13-24-162-13	SCREEN-KOHLER ENG	1
5	43-004A	ROD END, 1/4" (ALL STEEL)	1	36	6126010	FLAP-FAN SHROUD ACCESS	1
6	64205-001	BOLT-METRIC M8-1.25X20	4	38	56-027	TRIM, TRIM-LOC /FT	5
7	64006-2	LOCKWASHER, 8MM ZP	3	39	64025-01	NUT-1/4-20 HEX	1
8	64123-69	BOLT-HEX 5/16-18X1-1/2	4	40	6126006	CLAMP, THROTTLE CABLE	1
9	64163-04	WASHER, 25/64X5/8X16GA	5	41	47-159	CABLE-THROTTLE 107" OAL	1
10	64141-6	NUT, 5/16-18	8	42	47-160	CABLE-CHOKE 88"	1
11	64139-08	BOLT-5/16-18X3/4 WLF	4	43	05-032	GROMMET, 11/16IDX1-5/16OD	1
12	64002-04	LOCKWASHER, EXT. 5/16	1	44	27-015	HOSE, 1/4 FUEL LINE	6
13	64141-4	NUT-WLF 3/8-16	3	45	31-033	IGNITION SWITCH, KOHLER	1
14	99-G04	SHAKEPROOF WASHER, 3/8"	1	46	4135948	WIRE-YELLOW, REAR LIGHT	1
15	64139-21	BOLT-WLF 3/8-16X3/4	3	47	4135949	WIRE-ORANGE, KEY SWITCH	1
16	30-022	TERMINAL, MALE SPADE	8	48	4135951	WIRE-BLACK, REAR LIGHT	1
17	G8062	CLAMP-HALF 3/8 INSULATED	2	49	4135952	WIRE-GRAY, REGULATOR	1
18	30-004D	TERMINAL, 1/4 EYE, 14-16GA	1	50	4135956	CONNECTOR, F5	1
19	30-030	TERMINAL, FEMALE SPADE	2	51	4136007	WIRE-BLACK, GROUND	1
20	64139-02	BOLT-WLF 1/4-20X1/2	4	52	30-170	CONNECTOR, MALE F/1	3
21	30-082	CLAMP, INSULATED HALF	3	53	30-171	CONNECTOR, FEMALE F/1	6
22	4132729	MUFFLER, KOHLER	1	54	6126001.7	PLATE-AIR RESTRICTOR	2
23	4135677.8	PIPE-EXHAUST 230 MUFFLER	1	55	6126007.7	BACKING STRIP, BELTING	1
24	4135782	CLAMP-MUFFLER 1-3/8"	1	56	6126012.7	SIDEPIECE, SHROUD	2
25	87-114	FAN-PUMP COOLING 1"ID	1	57	6126003.7	SHROUD, KOHLER FLYWHL	1
26	13-145	ENG-KOHLER 27HP CH740	1	58	65286-4A	CABLE TIES-11-3/4"	15
27	11-026	CLAMP-HOSE 1-1/16	1				
29	6126009	DRIVESHAFT, 230 KOHLER	1				
30	29-062	PIPE NIPPLE, 3/8 NPT X 2	1				

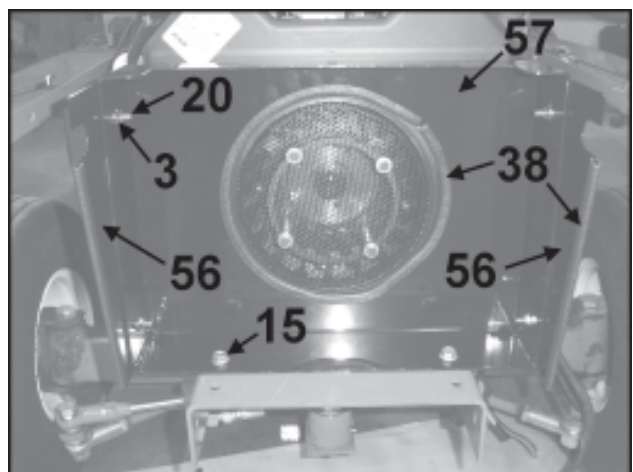
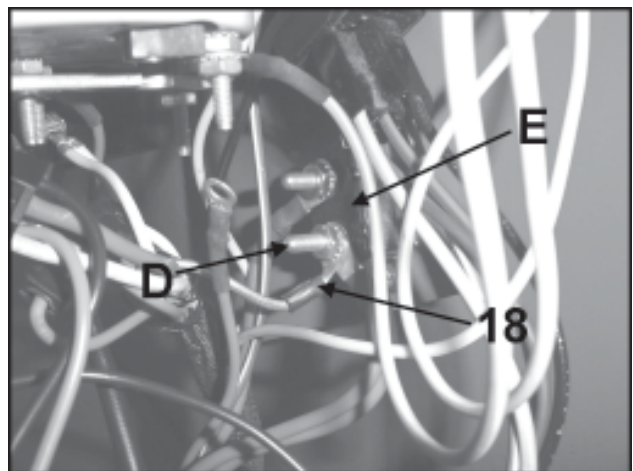
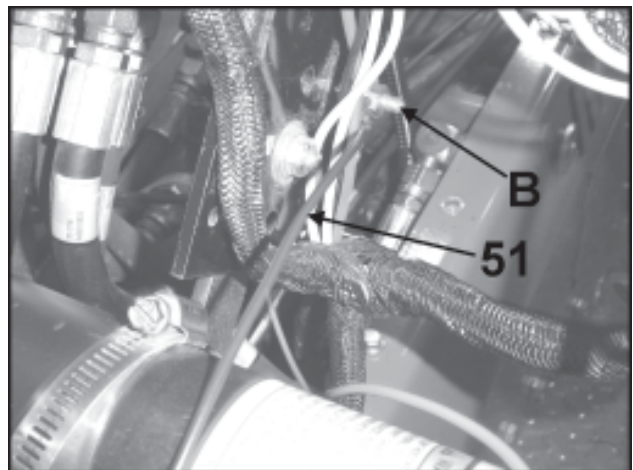
71. Install (1) clamp **21** on the right hand side plate upper mounting bolt **20**. Run the main harness through this clamp.
72. Cut the existing black wire **B** from the harness for the left hand rear light, near the harness. Retain the cut wire with the ring terminal. Strip the end of the retained wire and install (1) male spade connector **16**. Strip the end of the black harness wire and install (1) male spade connector **16**. Insert these connectors into (2) female terminal connector **53**.
73. Attach black rear light wire **48** to the connector installed on the black wire from the harness in step 72. Attach the other end to the retained wire, with the ring terminal. Attach the ring terminal to the left hand rear light.
74. Cut the existing yellow wire **Y** from the harness for the left hand rear light, near the harness. Retain the cut wire with the ring terminal. Strip the end of the retained wire and install (1) male spade connector **16**. Strip the end of the black harness wire and install (1) male spade connector **16**. Insert these connectors into (2) female terminal connector **53**.
75. Attach yellow rear light wire **46** to the connector installed on the yellow wire from the harness in step 74. Attach the other end to the left hand rear light.
76. Attach the wires from the harness to the right hand rear light.
77. Install (1) fan flap **36** and (1) backing strip **55** onto the engine shroud using (3) 1/4-20X3/4 flanged bolts **2** and (3) 1/4-20 flanged nuts **3**. Install (2) clamps **21**. Run the rear light wires and the throttle cable through these clamps.
78. Install (1) exhaust pipe **23** and (1) muffler clamp **24** onto the muffler as shown.
79. Reinstall the front panel removed in step 22.
80. Reinstall the top pump shield removed in step 17.
81. Reinstall the bottom grille and bumper removed in step 7.



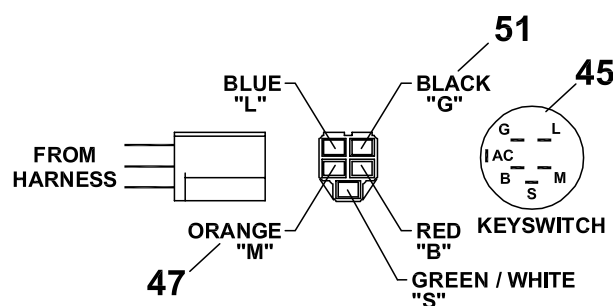
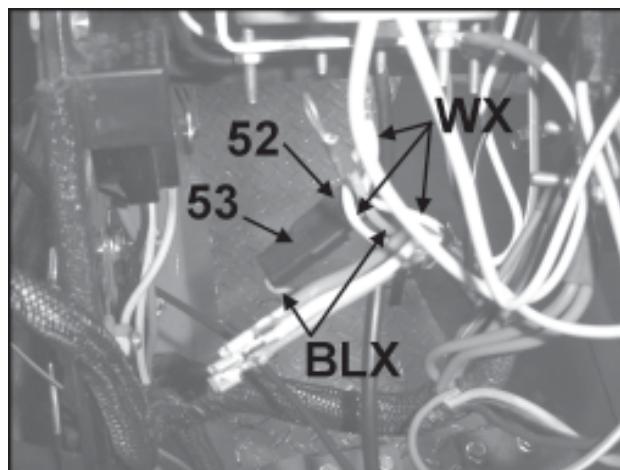
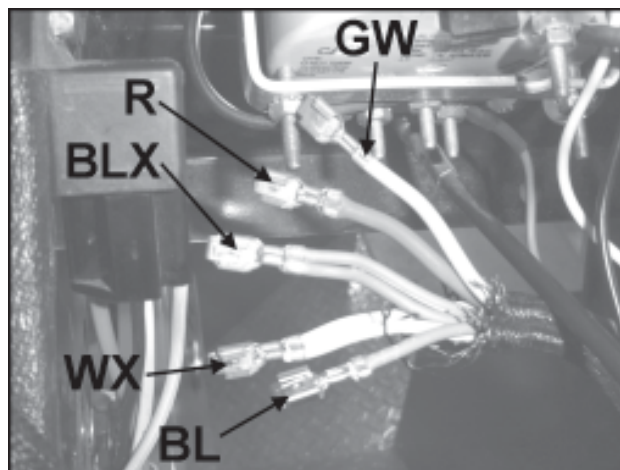
66. Install the ring terminal end of black wire **51** onto the ground bolt **B** located on the throttle lever.
67. Strip the end of the remaining blue wire and install (1) ring terminal **18**. Attach the ring terminal to the long post **D** of the auxiliary circuit breaker **E**.
68. Install the new keyswitch **45** into the dashboard and connect the harness to the keyswitch.

NOTE: Secure the wires and harness throughout the unit using cable ties to keep from becoming entangled in moving parts.

69. Install (1) main engine shroud **57** and (2) engine shroud side plates **56** using (4) 1/4-20X1/2 flanged bolts **20**, (4) 1/4-20 flanged nuts **3**, (2) 3/8-16X3/4 flanged bolts **15** and (2) 3/8-16 flanged nuts **13**.
70. Install (1) 28" section of trim **38** onto the center of the shroud, and (2) 9.5" sections onto the side plates.

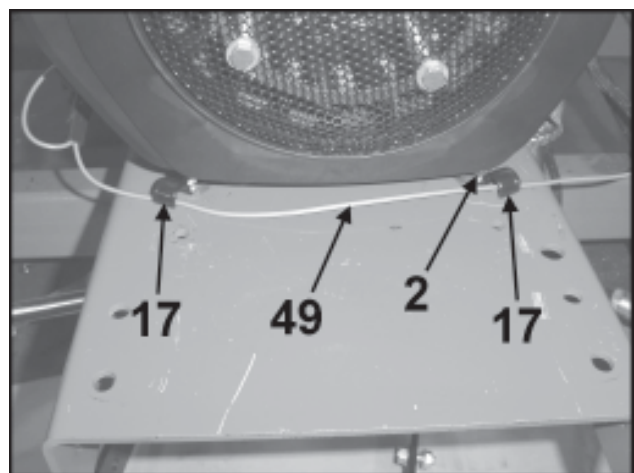
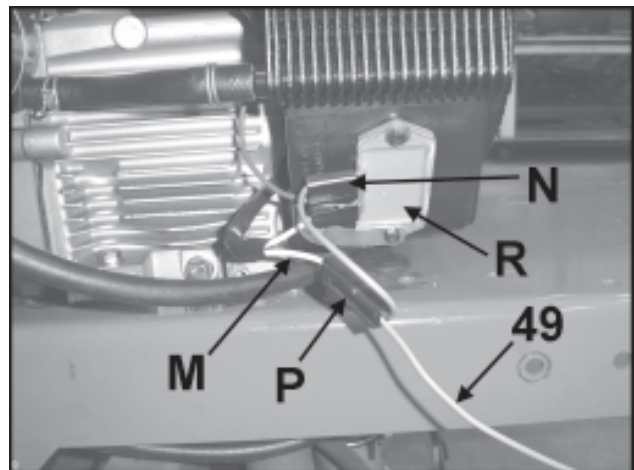
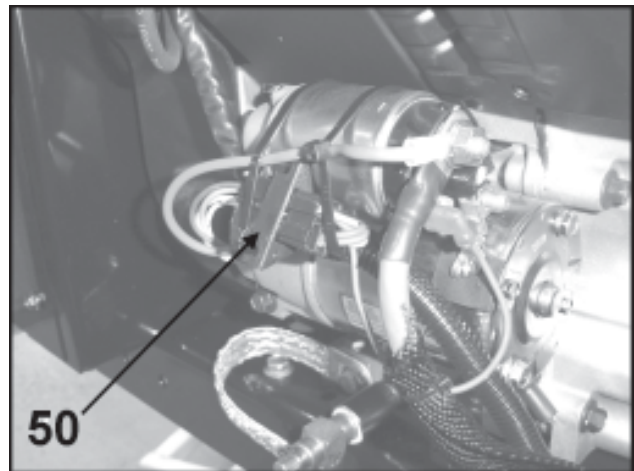


60. Disconnect the main harness from the keyswitch. Remove and discard the existing keyswitch.
61. Remove the existing green/white **GW**, red **R**, blue **BL**, double blue **BLX** and double white **WX** wires from the keyswitch connector. Retain the connector for future installation.
62. Remove the connector from the double blue wires **BLX**. Use a multi-meter to determine which blue wire connects to the PTO switch. Strip the end of that wire and install (1) male spade connector **16**. Insert this connector into (1) female connector **53**.
63. Cut either of the double white wires **WX**, and splice in (1) female spade connector **19**. Insert this connector into (1) male connector **52**. Insert this connector into the connector **53** attached to the blue wire in step 62.
64. Attach the spade connector on the double white wires onto the "AC" terminal on the new keyswitch **45**.
65. Insert the existing green/white, red and blue wires and the new orange wire **47** and new black wire **51** into the connector as shown. Use the new keyswitch **45** as a guide to locate the wires correctly.
 - New black wire **51** connects to the "G" terminal on the keyswitch.
 - Green/white **GW** wire from main harness connects to the "S" terminal on the keyswitch.
 - Red **R** wire from main harness connects to the "B" terminal on the keyswitch.
 - Blue **BL** wire from main harness connects to the "L" terminal on the keyswitch.
 - Orange wire **47** from engine connects to the "M" terminal on the keyswitch.



54. Connect the engine connector to the main harness connector **50**. Attach the harnesses to the starter using cable ties.
55. Cut the connector from the end of the gray wire of the main harness. Strip the end of the gray wire and install (1) female spade connector **19**. Insert this connector into (1) male terminal connector **52**.
56. Connect the single female terminal end of the new gray regulator wire **49** to the male terminal connector on the existing gray wire from the main harness.
57. Remove the white wire **M** from the connector **N** on the top slot of the regulator **R**. Insert the white wire **M** into the connector **P** on the new gray regulator wire **49**.
58. Insert the female spade connector end of the new gray regulator wire **49** into the connector **N** on the top slot of the regulator.
59. Secure the new gray regulator wire **49** to the frame as shown using (2) clamps **17**, (2) 1/4-20X3/4 flanged bolts **2** and (2) 1/4-20 flanged nuts **3**.

NOTE: The gray wire is shown without its sheath for clarity.



48. Install the braided ground strap **B** and the black negative battery cable **C** removed in step 13 onto the engine block using (1) M8-1.25X20 bolt **6**, (1) lockwasher **7**, (1) washer **9**, and (1) toothed lockwasher **12**.

NOTE: The toothed lockwasher must be between the engine block and the black negative battery cable.

49. Fasten the loose end of the braided ground strap to the tractor frame using (1) 3/8-16X3/4 flanged bolt **15**, (1) toothed lockwasher **14**, and (1) 3/8-16 nut **13**.

NOTE: The toothed lockwasher must be between the frame and the braided ground strap

50. Install the red positive battery cable **H**, and the red wire **J** with the ring terminal from the electrical harness removed in step 16 onto the starter **K**.

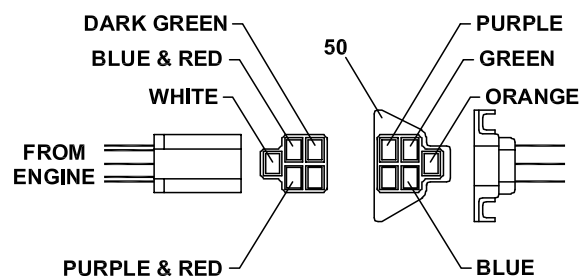
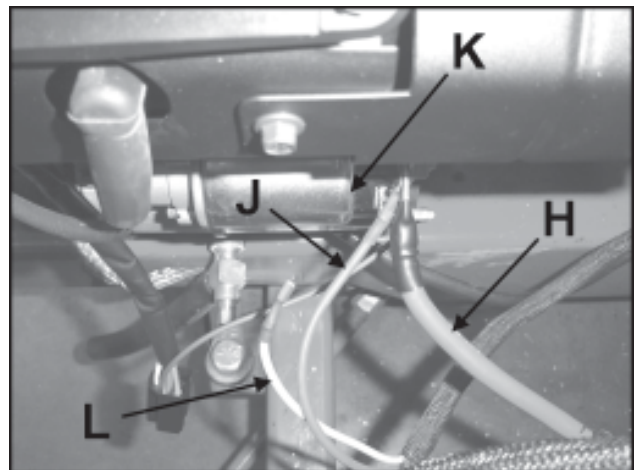
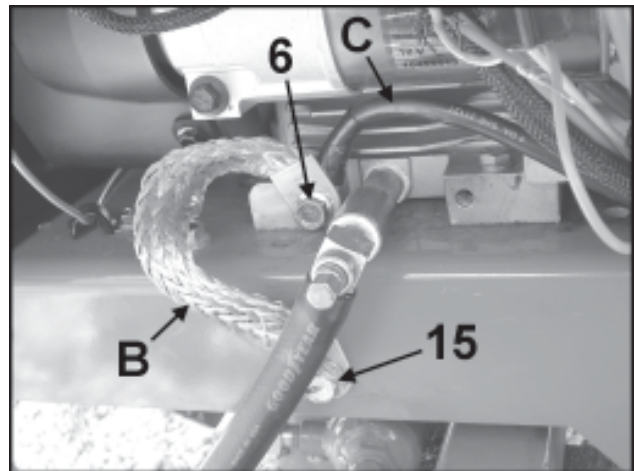
51. Remove the female spade connector from the green wire **L** from the harness. Strip the end of the green wire and install (1) male spade connector **16**.

52. Cut the red, blue and purple wires from the connector on the main harness disconnected in step 12. Discard the connector. Strip the end of the blue and purple wires and install (2) male spade connectors **16**.

NOTE: The red wire will not be used.

53. Insert the green, purple and blue wires into the 5 terminal connector **50** as shown. Use the engine connector as a guide to locate the wires correctly.

- Blue and red terminal from engine connects to the green wire from the main harness.
- Dark green terminal from engine connects to the purple wire from the main harness.
- Purple and red terminal from engine connects to the blue wire from the main harness.
- White terminal from engine connects to the new orange wire **47**. The orange wire should be routed along the battery cables and through the frame to attach to the keyswitch.



43. Route the choke cable **42** through the same frame hole as the throttle cable. Install the knob **G** end into the dash as shown.

44. Rotate the choke link **F** clockwise, as far as possible. Push the choke knob **G** all the way in.

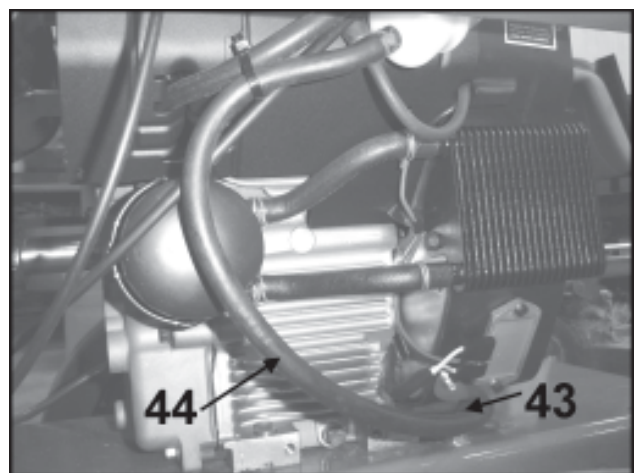
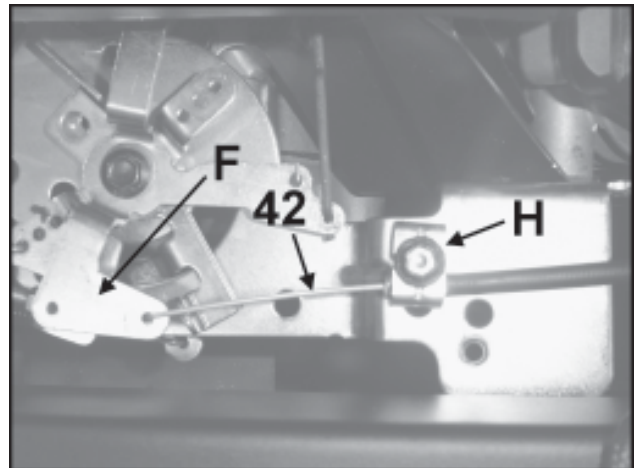
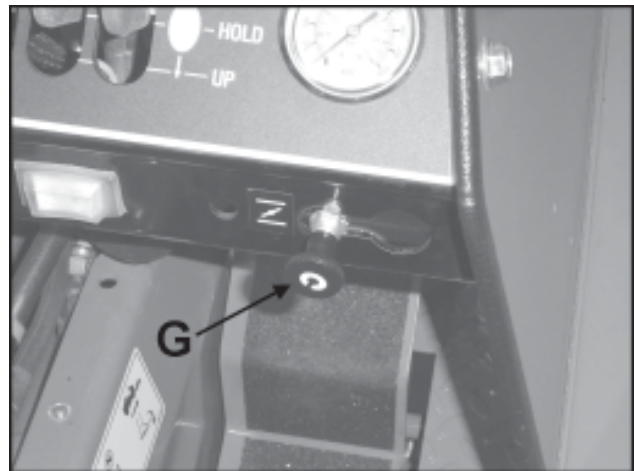
45. Connect the choke cable **42** to the outer hole on the choke link **F** as shown. Secure the cable with the hardware **H** included with the engine.

NOTE: Secure the choke cable to the throttle cable at several points throughout the unit using cable ties to keep the cable from becoming entangled in the driveshaft.

46. Install grommet **43** into the large hole on the left side of the bottom plate of the tractor frame.

47. Route fuel line **44** through grommet **43** and connect to the fuel filter. Route fuel line along the tractor frame and connect to the fuel valve. Secure the fuel line to the filter and the fuel valve using the clamps removed in step 15. Open the fuel valve and reinstall the fuel tank guard removed in step 14.

NOTE: Secure the fuel line at several points throughout the unit using cable ties to keep the fuel line from becoming damaged.



35. Install the fan **25** and fan clamp **27** onto the driveshaft **29**. Secure the fan approximately 5" from the engine end of the driveshaft.

NOTE: Make sure the fan blades are positioned as shown, for proper airflow.

36. Install the universal joints removed in step 21.

37. Install the engine side of the driveshaft onto the engine shaft, making sure the entire keyway is engaged on the universal joint. Slide the engine **26** onto the tractor frame, and the driveshaft onto the pumpshaft.

NOTE: Do not tighten the universal joint bolts at this time.

38. Secure the engine **26** to the tractor frame using (4) 5/16-18X1-1/2 bolts **8**, (4) washers **9** and (4) 5/16-18 nuts **10** in the (4) holes drilled in step 30.

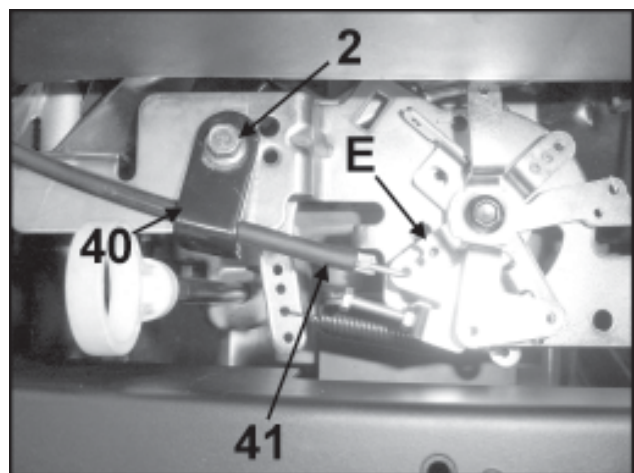
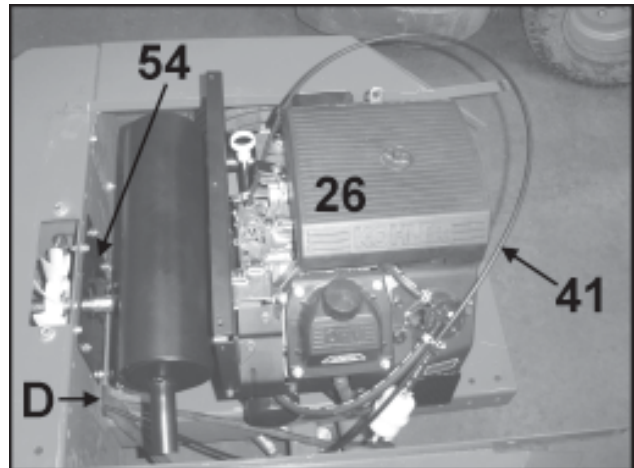
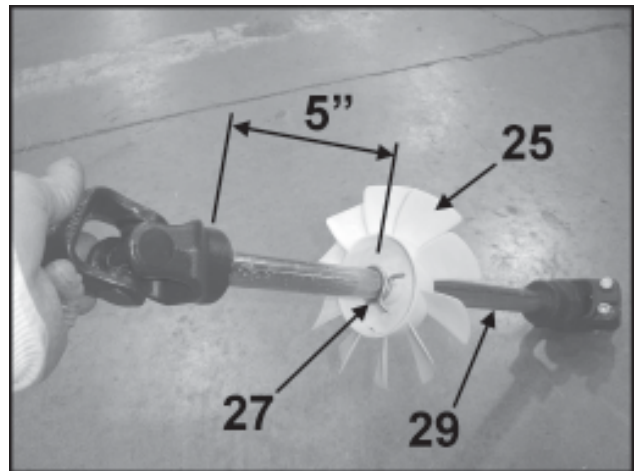
39. Tighten the universal joint bolts.

40. Install (2) air restrictor plates **54** around the driveshaft and secure to the frame using (4) 5/16-18X3/4 flanged bolts **11** and (4) 5/16-18 nuts **10**.

41. Route the throttle cable **41** installed in step 28 through the frame hole at location **D**. Loop the cable around the engine as shown.

NOTE: Secure the throttle cable to several points throughout the unit and to the fuel line with cable ties to keep the cable from becoming entangled in the driveshaft.

42. Move the throttle lever on the dashboard to the slowest position. Rotate the throttle link **E** counterclockwise, as far as possible. Connect the throttle cable **41** to the outer hole on the throttle link **E** as shown. Secure the cable with (1) clamp **40**, (1) 1/4-20X3/4 flanged bolt **2**, and (1) 1/4-20 nut **3**.



31. Cut 1-1/2" from the end of the exhaust outlet of the new muffler **22**.

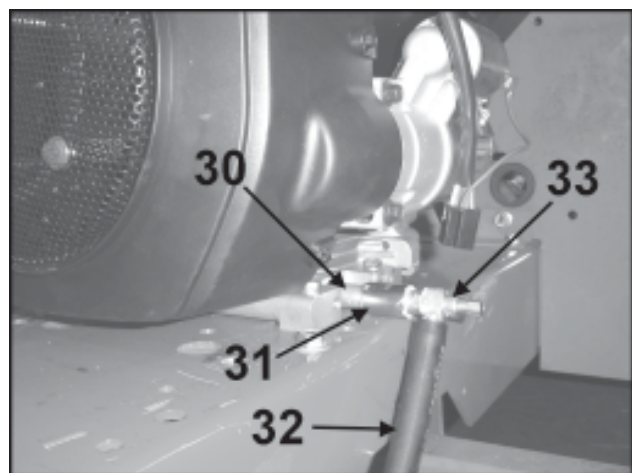
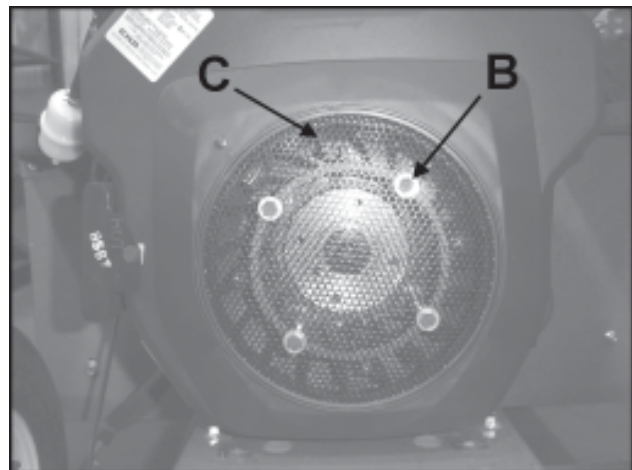
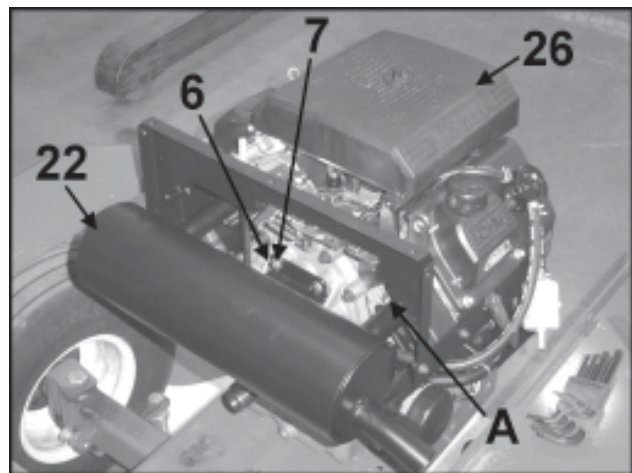
32. Install the muffler **22** onto the engine **26** using the (4) nuts **A** included with the engine to mount the muffler flanges and (2) M8-1.25X20 bolts **6** and (2) lockwashers **7** to mount the support bracket.

33. Remove the bolts **B** securing the flywheel screen **C** to the engine. Discard the flywheel screen. Install the new screen **34** using the existing bolts **B**.

NOTE: Tilting the engine to the side will prevent a loss of oil when performing step 34.

34. Remove and discard the engine oil drain plug. Using a thread sealant, install (1) pipe nipple **30**, (1) pipe coupling **31**, (1) oil drain valve **33**, and (1) hose **32**.

NOTE: Check engine oil level and adjust level per engine manufacturer's manual.

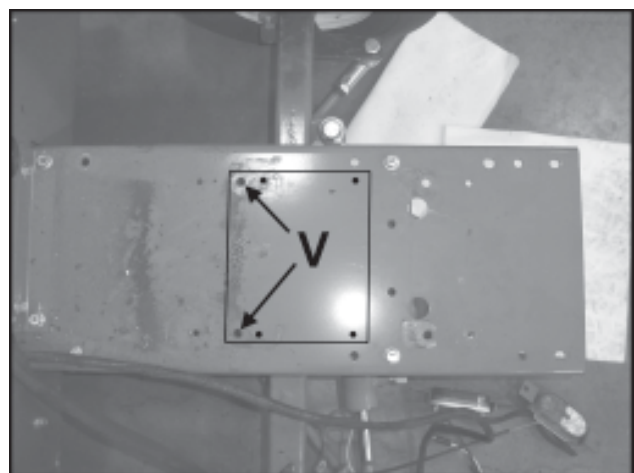
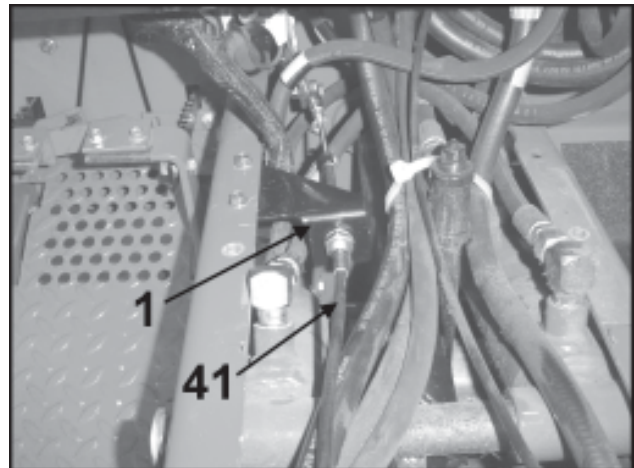
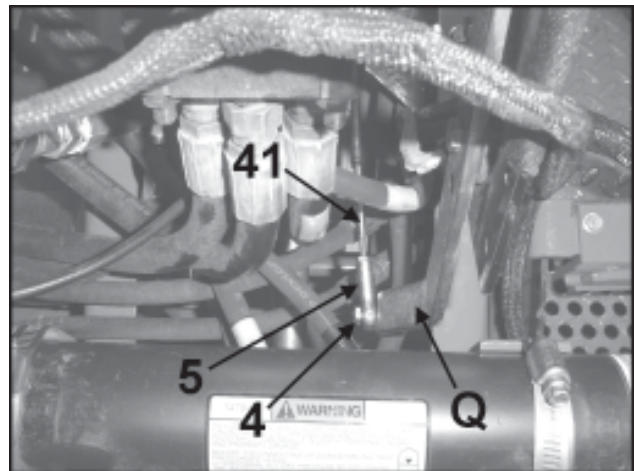


28. Move the throttle lever on the dashboard to the slowest setting. Install the rod end **5** onto the new throttle cable **41**. Tighten the jam nut included with the throttle cable. Install the throttle cable onto the throttle lever **Q** using (1) 1/4-20X1 bolt **4** and (1) 1/4-20 nut **39**.

29. Install the throttle cable **41** onto the throttle cable mount **1** using the (2) cable nuts included with the cable.

NOTE: Position the cable nuts so (1) nut is on each side of the throttle cable mount. Keep throttle cable along side of frame until the new engine is installed.

30. Using TEMPLATE 2 from page 18, mark and drill (4) 11/32" holes through the bottom plate of the frame. Align the template on the frame using existing holes **V**.

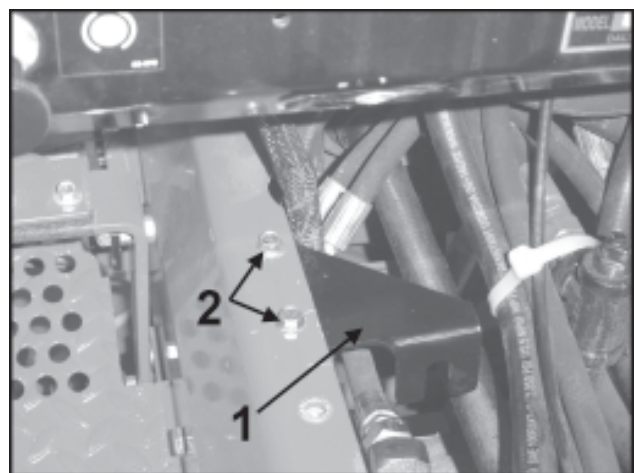
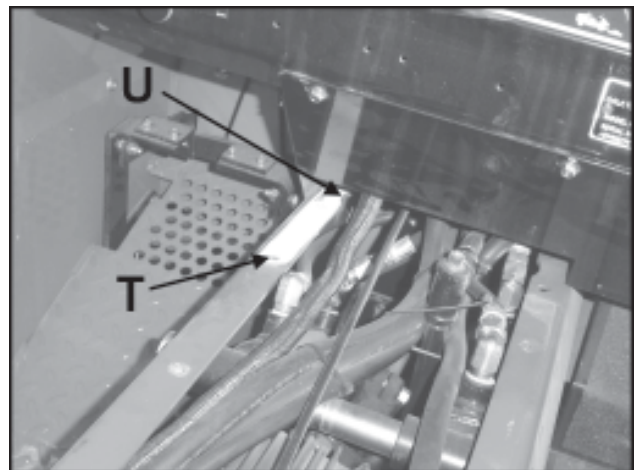
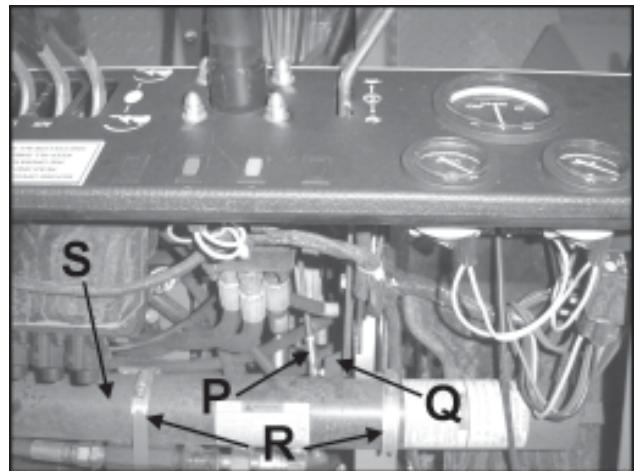


25. Remove the throttle rod linkage **P** from the throttle lever **Q** and discard. Loosening the clamps **R** and sliding the accumulator **S** to the side will allow better access to the throttle lever.

26. Using TEMPLATE 1 from page 18, mark and drill (2) 9/32" holes through the left side panel of the frame. Align the template on the frame using existing hole **T** and radius **U**.

NOTE: Loosening the fasteners that hold the dashboard to the unit will provide more clearance for drilling.

27. Install throttle cable mount **1** as shown using (2) 1/4-20X3/4 flanged bolts **2** and (2) 1/4-20 flanged nuts **3**.



19. Remove the clamps **K** securing the wiring harness to the frame.

20. Remove the engine mounting bolts and carefully remove the engine from the unit.

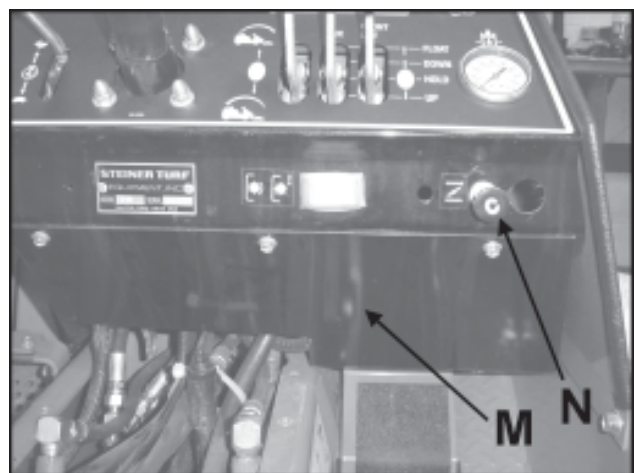
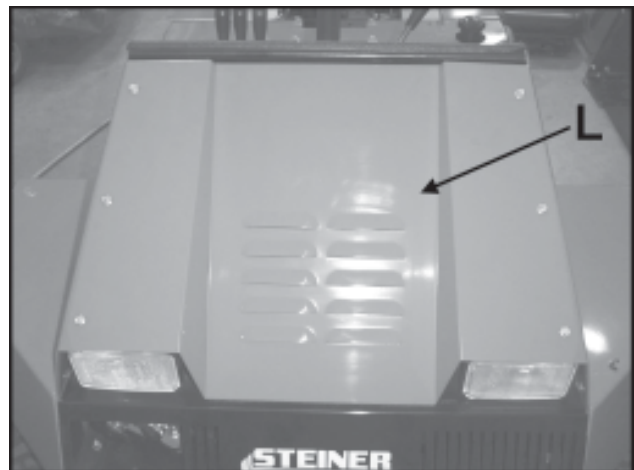
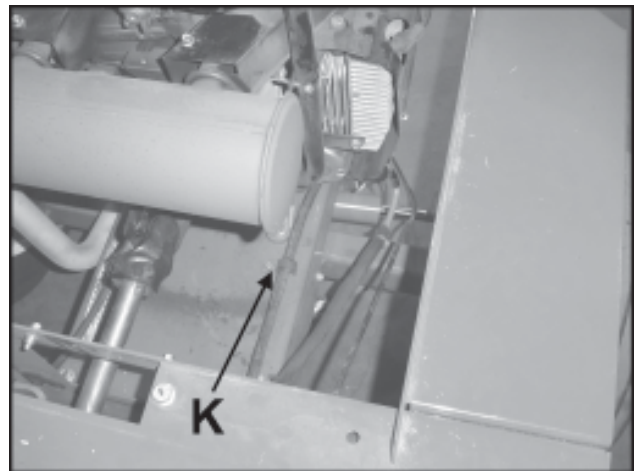
NOTE: Make sure not to damage any wiring or hoses when disengaging the driveshaft from the pump shaft.

21. Remove the driveshaft from the Linamar engine. Remove both universal joints from the driveshaft. Retain the universal joints for later use. Discard the driveshaft.

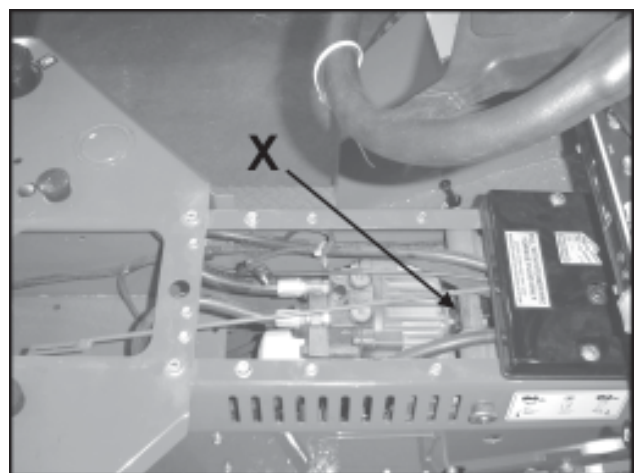
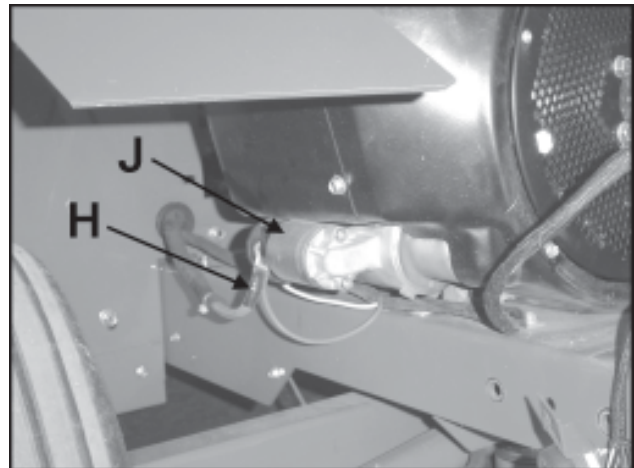
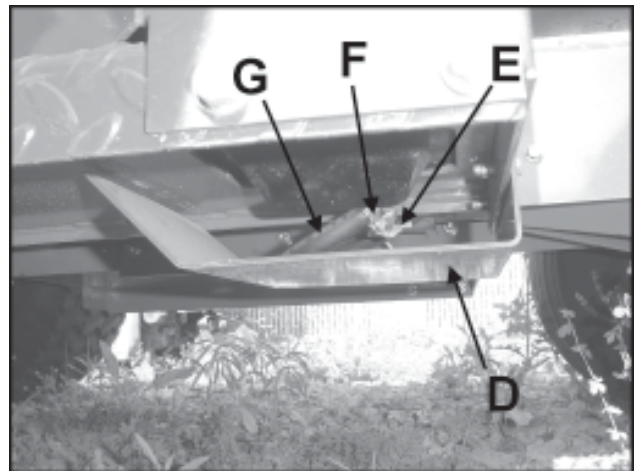
22. Remove the front panel **L** from the unit. Retain the front panel and fasteners for later use.

23. Remove the shield **M** from beneath the dashboard. Retain the shield and fasteners for later use.

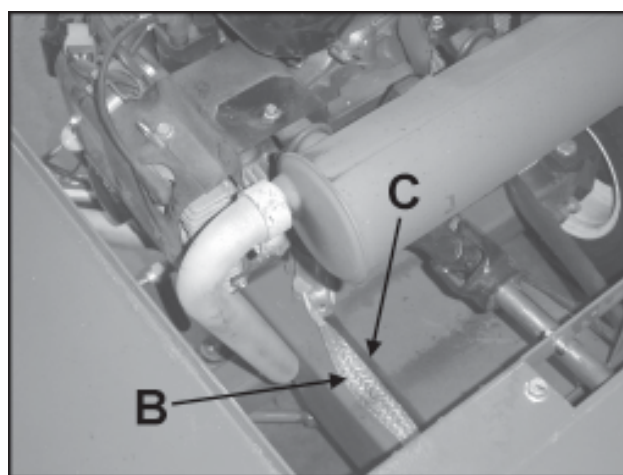
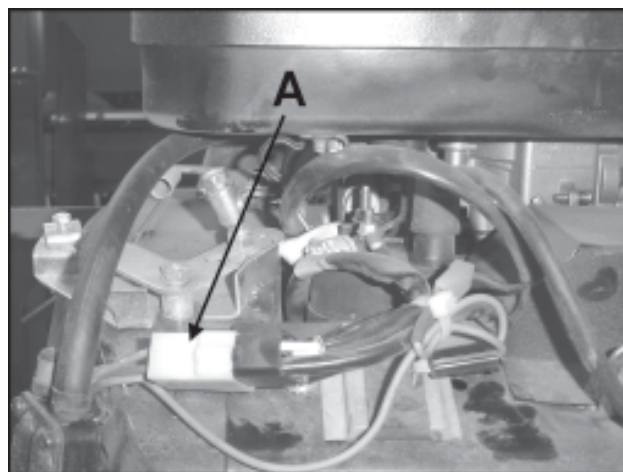
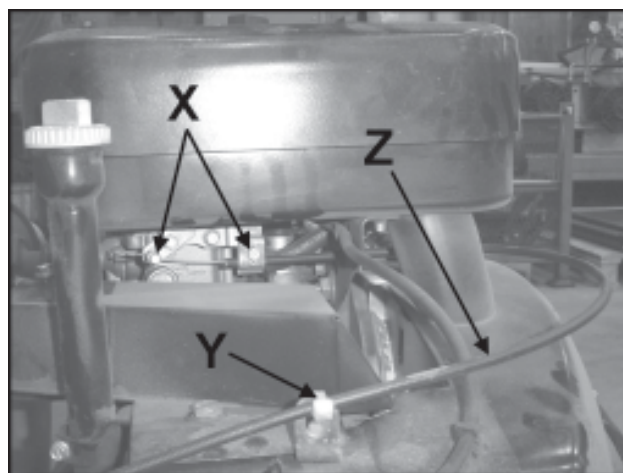
24. Remove and discard the choke cable **N**.



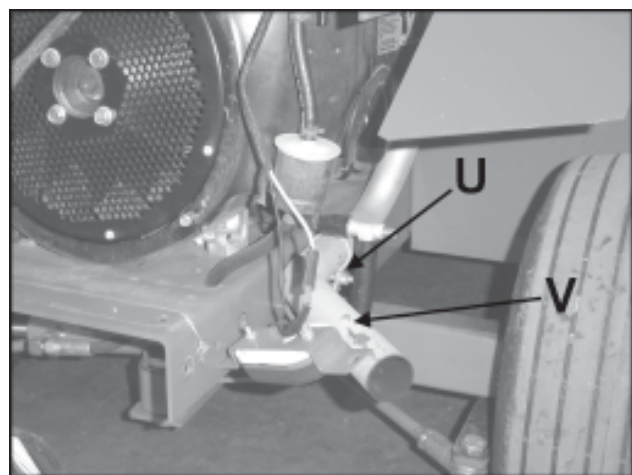
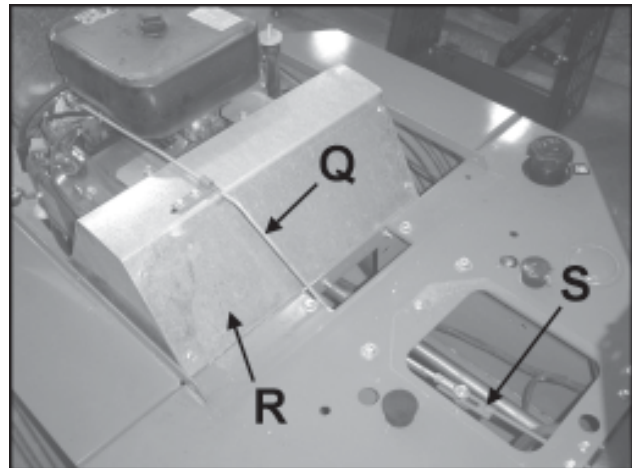
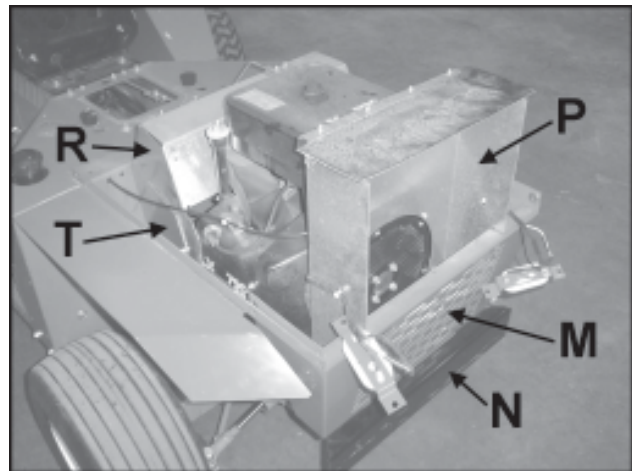
14. Remove fuel tank guard **D** from the bottom of the unit. Retain fuel tank guard and fasteners for later use.
15. Close fuel valve **E**. Remove hose clamp **F** and retain for later use. Remove fuel hose **G**, including fuel filter, from the unit and discard.
16. Remove positive battery cable **H** and wires from starter **J**. Leave battery cable in position.
17. Remove the top pump shield plate. Retain top pump shield plate and fasteners for later use.
18. Loosen the driveshaft bolts of the universal joint **X** on the pump side.



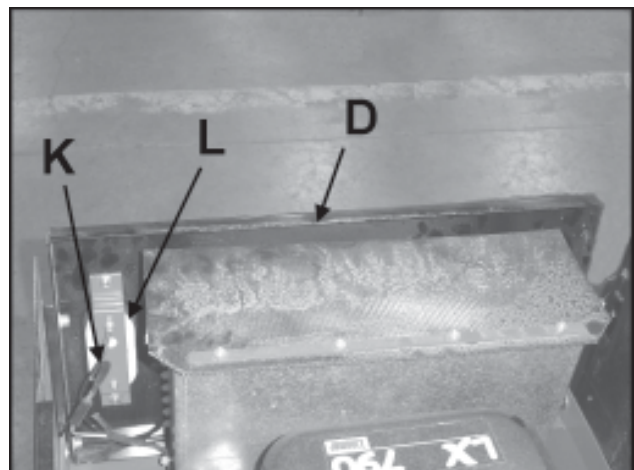
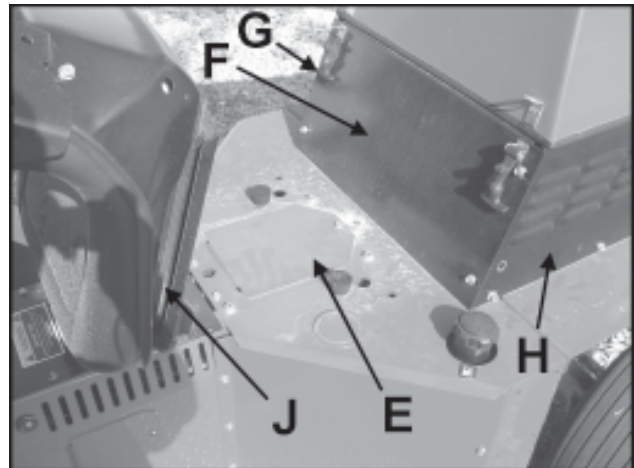
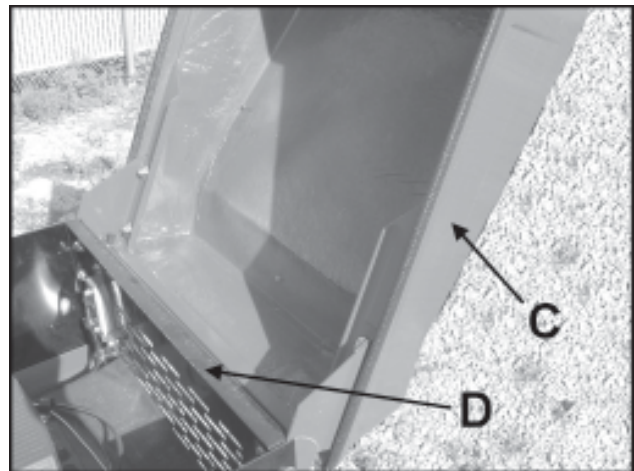
11. Loosen screws **X** and cut cable tie **Y** to disconnect choke cable **Z**. Discard choke cable.
12. Disconnect the main electrical harness **A**.
13. Remove and retain ground strap **B** and black negative battery cable **C** from the engine and tractor frame.



7. Remove bottom grille **M** and bumper **N**. Retain grille, bumper and fasteners for later use.
8. Remove and discard the rear heat shield **P**.
9. Disconnect the throttle linkage **Q** from the engine, front heat shield **R** and the throttle rod **S**. Remove the access cover **T** from the left side of front heat shield **R** to gain access to the fasteners securing the heat shield. Remove and discard the throttle linkage **Q** and the front heat shield **R**.
10. Remove and discard exhaust clamp **U** from the tractor frame, and disconnect and discard the exhaust pipe **V** from the muffler.



3. Remove hood assembly **C** from rear panel **D**. Retain hood and fasteners for later use.
4. Tilt the seat forward and disconnect the seat switch. Remove the seat assembly **J** and the driveshaft shield **E**. Retain seat assembly, driveshaft shield, and fasteners for later use.
5. Disconnect the wiring harness **K** from the rear lights **L** on both sides of the unit.
6. Remove rear panel **D**, side panels **G** and **H**, and front panel **F**. Retain panels and fasteners for later use.



INTRODUCTION: This instruction sheet covers the installation of the Linamar to Kohler engine conversion kit for the Steiner 230.

NOTE: All references to the "right" or "left" are with respect to an operator at the controls. Parts indicated with a letter are existing, parts supplied with kit are represented with the number corresponding to the parts list located on page 17.

1. Remove battery side panels **A** and **B**. Retain battery side panels and fasteners for later use.

⚠ WARNING Battery acid is caustic and fumes are explosive and can cause serious injury or death.

Use insulated tools, wear protective glasses or goggles and protective clothing when working with batteries. Read and obey the battery manufacturer's instructions.

Be certain the ignition switch is "OFF" and the key has been removed before servicing the battery.

Verify battery polarity before connecting or disconnecting the battery cables.

When removing the battery, always remove the ground, negative (-) cable first and the red, positive (+) cable last.

When installing the battery, always assemble the RED, positive (+) battery cable first and the ground, BLACK, negative (-) cable last.

2. Disconnect the battery cables, leaving the cables in their respective positions.

