



INSTRUCTION BULLETIN

No. 3757
Machine: 355E
Published: 5-98/01
System: ELECTRICAL

NOTE: DO NOT DISCARD the Parts List from the Instruction Bulletin. Place the Parts List in the appropriate place in your machine manual for future reference. Retaining the Parts List will make it easier to reorder individual parts and will save you the cost of ordering an entire kit.

NOTE: Numbers in parenthesis () are reference numbers for parts listed in Bill of Materials.

Installation Instructions for Kit number 84600 and 84601

SYNOPSIS / PROBLEM:

This kit contains the parts needed to replace the accessory motor and pump on the model 355E sweeper. Please follow step-by-step instructions.

SPECIAL TOOLS / CONSIDERATIONS: None (Estimated time to complete: 2 hours)

PREPARATION:

(Refer to FIG. 1 and 2)

1. Start the machine and raise the hopper. Engage the prop arm.

FOR SAFETY: Before leaving or servicing machine, stop on level surface and set parking brake. Then turn off machine and remove key.

2. Open the battery cover and disconnect battery cables from machine.

 **WARNING: Always disconnect battery cables from machine before working on electrical components.**

3. Open the battery compartment side door and remove it from the machine.
4. Remove the four screw holding the vacuum fan belt cover to the vacuum fan assembly. Remove the cover.
5. Mark and disconnect the electrical cables leading to the accessory motor. (Refer to FIG. 1)
6. Mark, disconnect, and plug the hydraulic hoses leading to the main hydraulic pump. (Refer to FIG. 1)

IMPORTANT: Avoid contamination of hydraulic system. Foreign material in system can impair operation and damage equipment.

7. Remove the four screws holding the accessory motor and pump assembly to the machine frame. Remove the accessory motor/pump and mount bracket from the machine. (Refer to FIG. 1)

NOTE: Open the left hand brush door to gain access to the mount bracket hardware.

8. **If your machine is an EE version-** remove the hydraulic fittings and 2 pump mount screws. Discard the accessory motor, hydraulic pump, pump adaptor, and pump mount bracket. (Refer to FIG. 1 and 2)

9. If your machine is a standard version--remove the four screws holding the pump and pump adaptor to the accessory motor. Pull the pump adaptor and pump off the accessory motor. (Refer to FIG. 1)

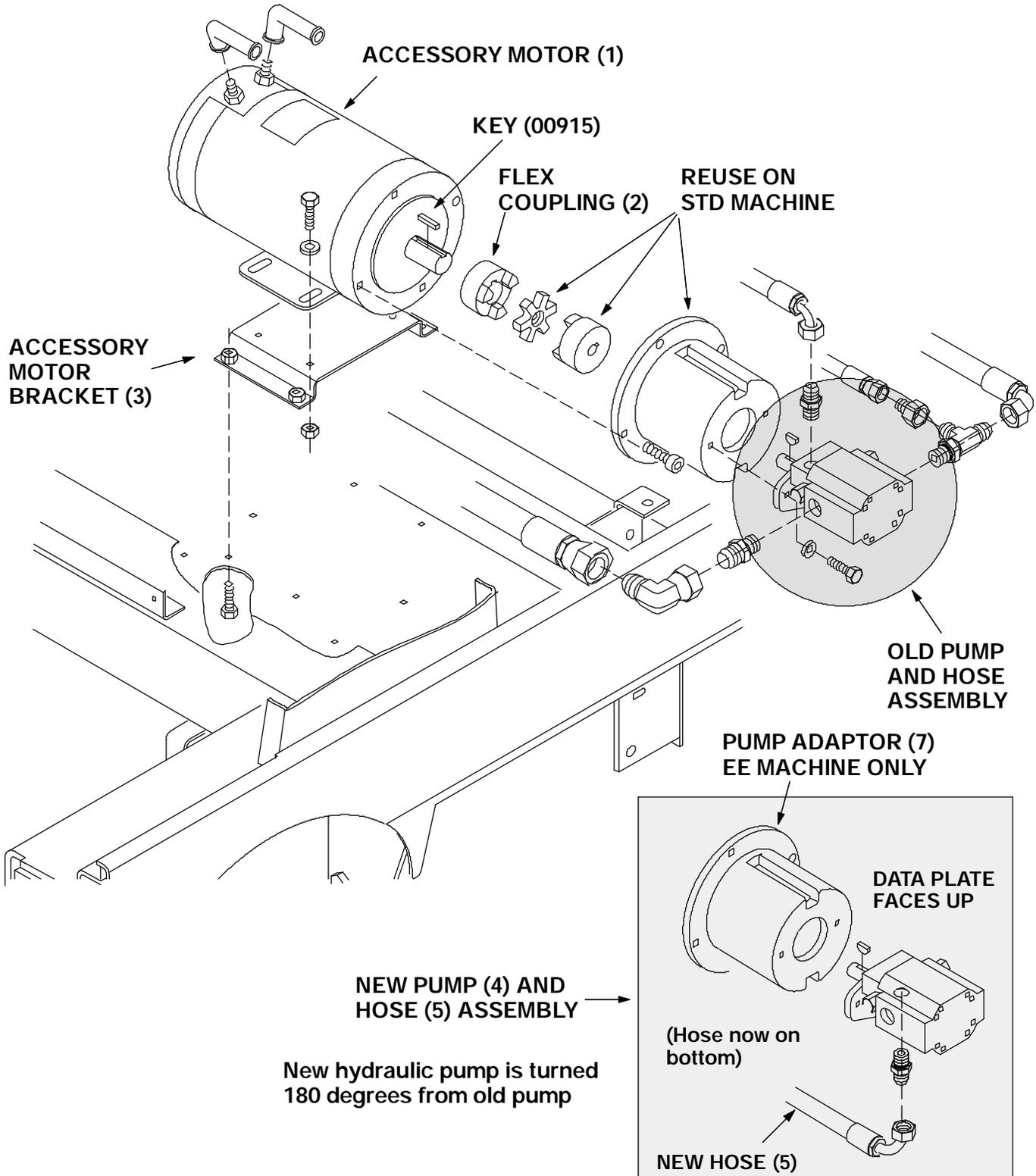


FIG. 1 - ACCESSORY MOTOR, COUPLING, PUMP ADAPTOR, AND PUMP ASSEMBLY

10. If your machine is a standard version--Loosen the set screws holding the flex coupling to the hydraulic pump shaft. Remove the flex coupling and flex spacer from the old pump. Remove the hydraulic fittings and discard the accessory motor, hydraulic pump, and accessory motor bracket. Retain the pump adaptor for re-use. (Refer to FIG. 1)

INSTALLATION OF NEW PUMP, MOUNT, AND MOTOR:

(Refer to FIG. 1 and 2)

1. Install the hydraulic fittings in the new pump (4) in the same orientation as they were removed. (Refer to FIG. 1)

NOTE: The new pump (4) is at a 180° rotation from the orientation of the old hydraulic pump. The fitting and hose that were on top of the old pump are now on the bottom of the new pump (4). (Refer to FIG. 1)

2. **If your machine is a standard version-** - install the new pump (4) on the old pump adaptor. Place a small amount of adhesive (6) on the threads of the two pump mount screws. Install the screws and tighten to 18 - 24 Nm (15 - 20 ft lb). (Refer to FIG. 1)
3. **If your machine is an EE version-** - install the new pump (4) on the new pump adaptor (7). Place a small amount of adhesive (6) on the threads of the two pump mount screws. Install the screws and tighten to 18 - 24 Nm (15 - 20 ft lb). (Refer to FIG. 2)

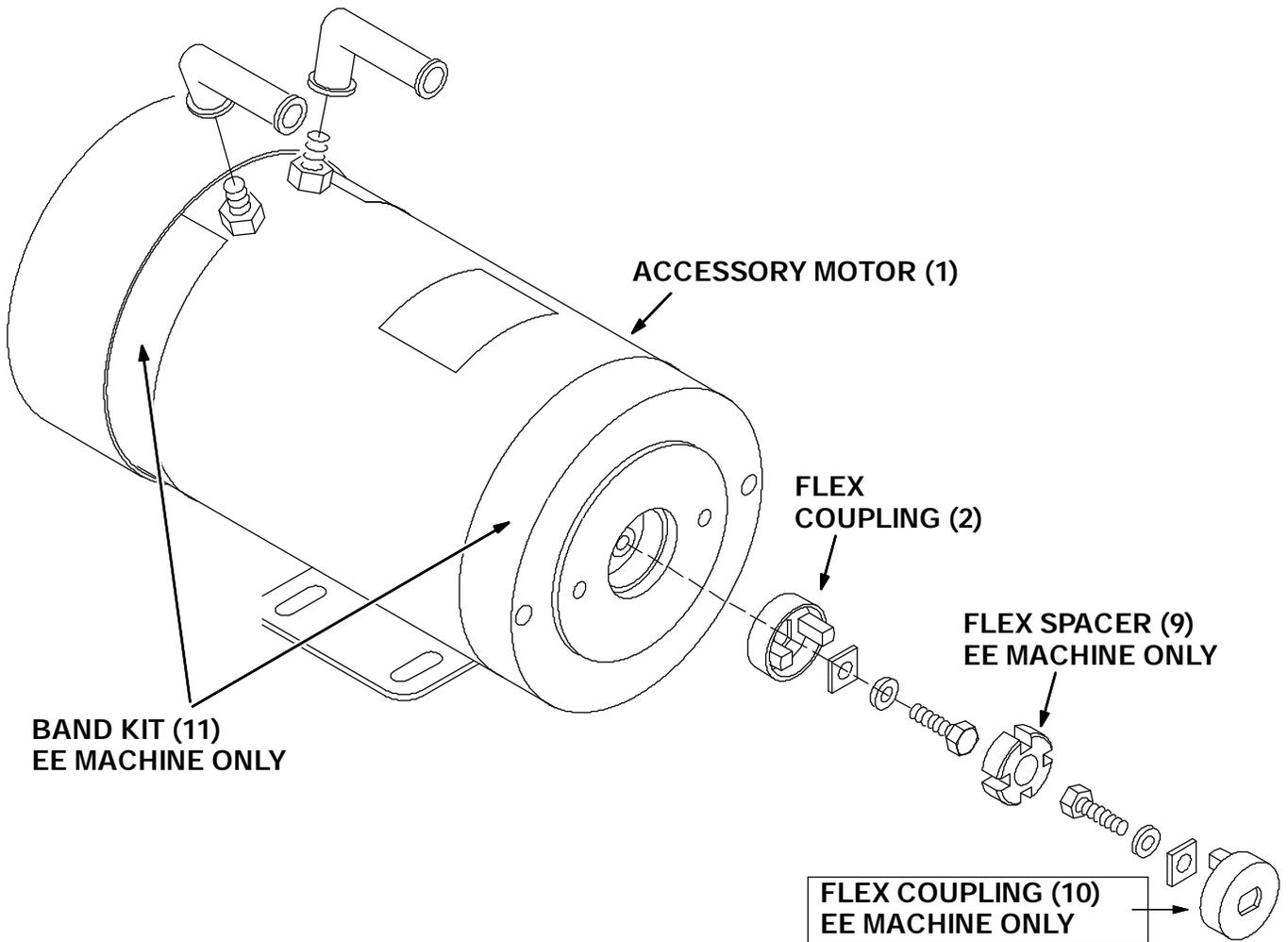


FIG. 2 - EE MACHINE COUPLING ASSEMBLY

4. **If your machine is a standard version-** - install the existing flex coupling and flex spacer on the shaft of the new pump (4). Position the coupling so it extends slightly past the end of the pump shaft. Hand tighten the set screws firmly. (Refer to FIG. 1)

NOTE: Place a small amount of grease on the pump and motor shafts before re-assembly. (Refer to FIG. 1 and 2)

5. **If your machine is an EE version-** - install the new flex coupling (10) and flex spacer (9) on the shaft of the new pump (4). Position the coupling so it extends slightly past the end of the pump shaft. Hand tighten the set screws firmly. (Refer to FIG. 2)
6. **If your machine is an EE version-** - install the two bands in the new band kit (11) on the new electric motor (1). (Refer to FIG. 2)
7. Install the new flex coupling (2) on the new electric motor (1). Position the coupling so it extends slightly past the end of the pump shaft. Hand tighten the set screws firmly. (Refer to FIG. 1 and 2)

NOTE: Place a small amount of grease on the pump and motor shafts before re-assembly.

8. Install the pump, adaptor, and coupling assembly on the new electric motor. Reinstall the four screws and tighten to 31 - 40 Nm (27 - 35 ft lb). Place a small amount of adhesive (6) on the threads of the four pump adaptor mount screws. (Refer to FIG. 1)

NOTE: The new pump (4) is at a 180° rotation from the orientation of the old hydraulic pump. The fitting and hose that were on top of the old pump are now on the bottom of the new pump (4). (Refer to FIG. 1)

9. Install the new accessory motor bracket (3) on the new motor and pump assembly. Slide the motor and pump assembly back in the slots as far as it will go before tightening the four screws and nuts. Tighten to 11 - 14 Nm (7 - 10 ft lb). (Refer to FIG. 1)
10. Install the motor/pump assembly and mount bracket in the machine. Reinstall the four screws and tighten to 18 - 24 Nm (15 - 20 ft lb). (Refer to FIG. 1)
11. Reconnect the hydraulic hoses to the new pump. **Note: the hose that went to the fitting on top of the old pump needs to be removed and replaced with a new hydraulic hose (5) that is 2" longer. This hose is now connected to the fitting on the bottom of the new pump.** (Refer to FIG. 1)
12. Reconnect the electrical cables to the new accessory motor. (Refer to FIG. 1)
13. Reinstall the vacuum fan belt cover. Reinstall the four screws and tighten to 7.6 - 9.9 Nm (5 - 6 ft lb).
14. Reconnect the machine batteries and start the machine. Check the pump for any leaks. Disengage the prop arm and lower the hopper.

TO INSTALL 90 AMP CIRCUIT BREAKER:

(Refer to FIG. 3)

FOR SAFETY: Before leaving or servicing machine, stop on level surface and set parking brake. Then turn off machine and remove key.

1. Open the battery cover and disconnect battery cables from machine.

 **WARNING: Always disconnect battery cables from machine before working on electrical components.**

2. Remove the hardware holding the cover plate to the electrical control box. Remove the cover plate. (Refer to FIG. 3)
3. Locate the existing 80 amp circuit breaker in the control box. Mark and disconnect the wires leading to the back of the breaker. (Refer to FIG. 3)
4. Remove the two screws holding the circuit breaker in the box. Remove and discard the circuit breaker. (Refer to FIG. 3)

5. Position the new 90 amp (7 or 12) in the control panel. Reinstall the two screws and hand tighten. (Refer to FIG. 3)

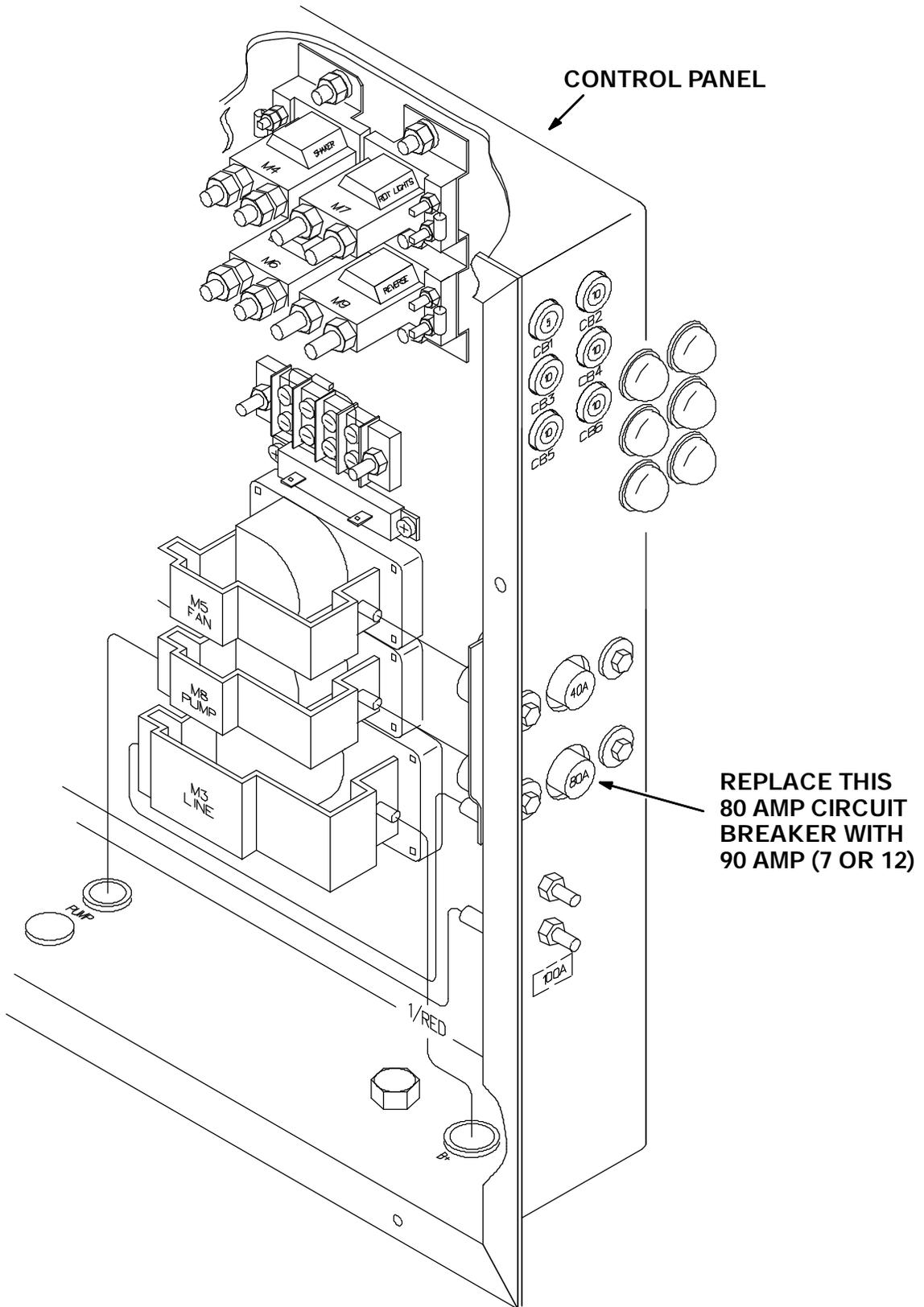


FIG. 3 - CONTROL PANEL AND CIRCUIT BREAKER

6. Reconnect the wires to the back of the new circuit breaker (7 or 12). (Refer to FIG. 3)
7. Reinstall the cover plate on the control panel. Firmly tighten the screws. (Refer to FIG. 3)

BILL OF MATERIALS FOR MOTOR REPLACEMENT KIT 84600 (standard machine)

Ref.	TENNANT Part No.	Description	Qty.
1	360175	Electric motor, 36vdc, 4 hp	1
2	84585	Flex coupling	1
3	84599	Accessory motor bracket	1
4	70243	Hydraulic gear pump	1
5	31566	Hydraulic hose	1
6	32676	Loctite 242blu thread adhesive, .5ml	1
7	71534	90 amp circuit breaker	1
8	00915	Square key	1

BILL OF MATERIALS FOR MOTOR REPLACEMENT KIT 84601 (EE machine)

Ref.	TENNANT Part No.	Description	Qty.
1	360175	Electric motor, 36vdc, 4 hp	1
2	84585	Flex coupling	1
3	84599	Accessory motor bracket	1
4	70243	Hydraulic gear pump	1
5	31566	Hydraulic hose	1
6	32676	Loctite 242blu thread adhesive, .5ml	1
7	57827	Adaptor, pump drive	1
8	10829	Screw, soc. .38-16x.75	4
9	59742	Flex spacer	1
10	59740	Flex coupling	1
11	374512	Band kit (EE machine)	1
12	71534	90 amp circuit breaker	1
13	00915	Square key	1

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