



INSTRUCTION BULLETIN

No. 9021689
Machine: M17/T17
Published: 10-2021
Rev. 00

NOTE: DO NOT DISCARD the Parts List from the Instruction Bulletin. Place the Parts List in the appropriate place in the machine manual for future reference. Retaining the Parts List will make it easier to reorder individual parts and will save 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 9021686**

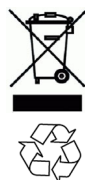
Kit installation must be performed by TennantTrue[®] service or an authorized service provider.

SYNOPSIS:

This kit contains the parts needed to replace power steering motor on M17 sweeper- scrubbers (NA 012479-) (EU U00726-) T17 scrubbers (equipped with power steering) (NA 014650-) (EU U01607-) and M17 sweeper- scrubbers (NA 000000- 012477) (EU U00000- U00725) T17 scrubbers (NA 011000- 014649) (EU U00400- U01606) that have been updated with 9018436- KIT, FIELD INSTALL, POWER STEERING. Please follow step-by-step instructions.

SPECIAL TOOLS / CONSIDERATIONS: NONE

(Estimated time to complete: 1.5 hours)



PROTECT THE ENVIRONMENT

Please dispose of packaging materials, used machine components such as batteries and fluids in an environmentally safe way according to local waste disposal regulations.

Always remember to recycle.

PREPARATION:

1. Remove the access panel from the machine. Set the access panel and hardware aside. (Fig. 1)



FIG. 1

2. Turn on the machine, drive the machine so the drive wheel (front wheel) is oriented straight out from the front of the machine, turn off the machine, set the parking brake, and remove the key. (Fig. 2)



FIG. 2

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

3. Disconnect the battery cable from the machine.

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

4. Disconnect the lower power steering shaft from the bottom power steering motor shaft. Set the SEMS M8 hex screw aside. (Fig. 3)

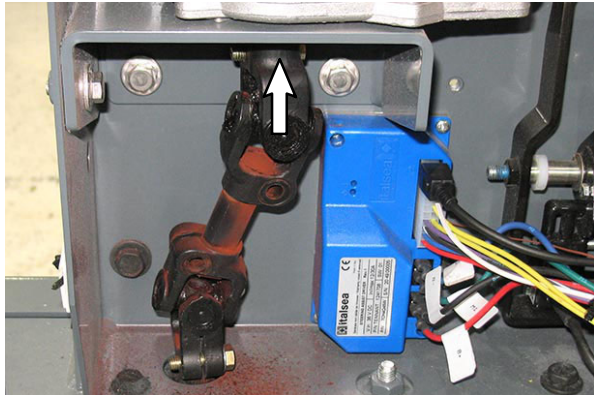


FIG. 3

5. Disconnect the bottom of the power steering top shaft from the power steering motor. Set the SEMS M8 hex screw aside. (Fig. 4)

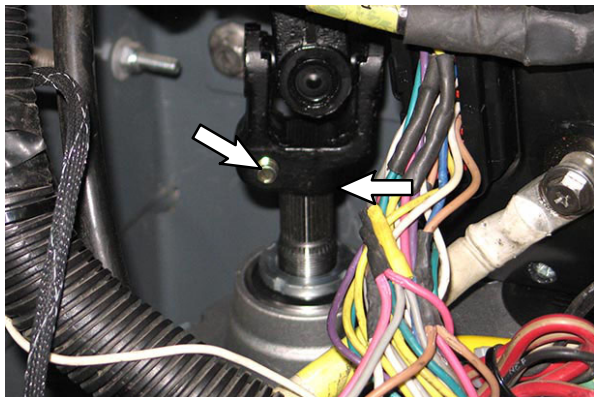


FIG. 4

6. Remove the five SEMS M8 hex screws securing the power steering motor assembly to the steering support channel. Set the SEMS M8 hex screws aside. (Fig. 5)

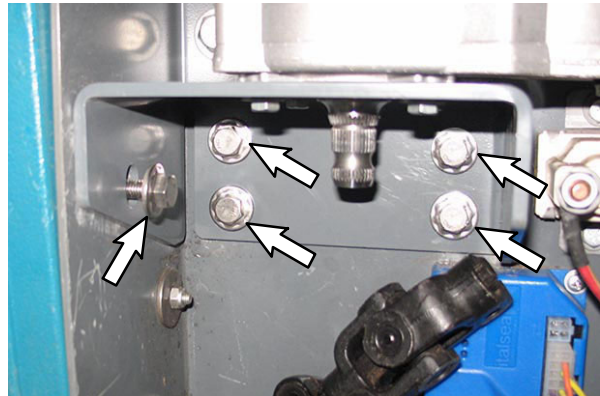


FIG. 5

7. Disconnect all harness connections from the power steering motor.
8. Remove the power steering motor from the motor support bracket. Set the motor support bracket aside. Discard the power steering motor and the four M6 hex screws and flat washers. (Fig. 6)

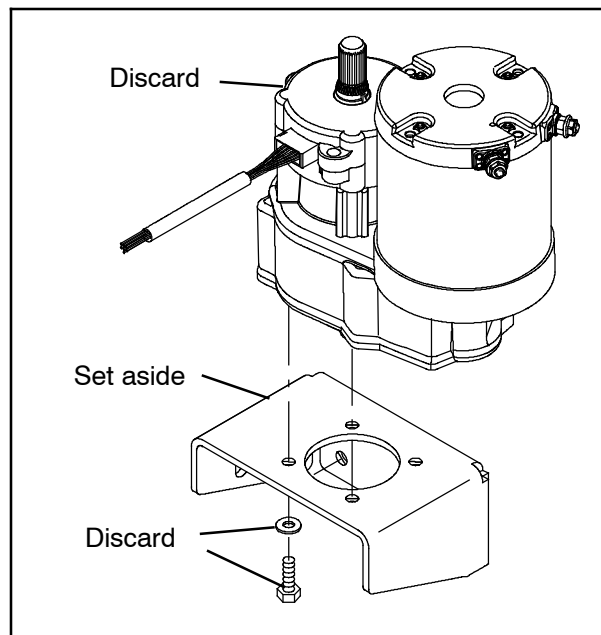


FIG. 6

INSTALLATION:

1. Use four M6 hex screws (1) and four flat washers (2) install the power steering motor (4) onto the motor support bracket. (Fig. 7)

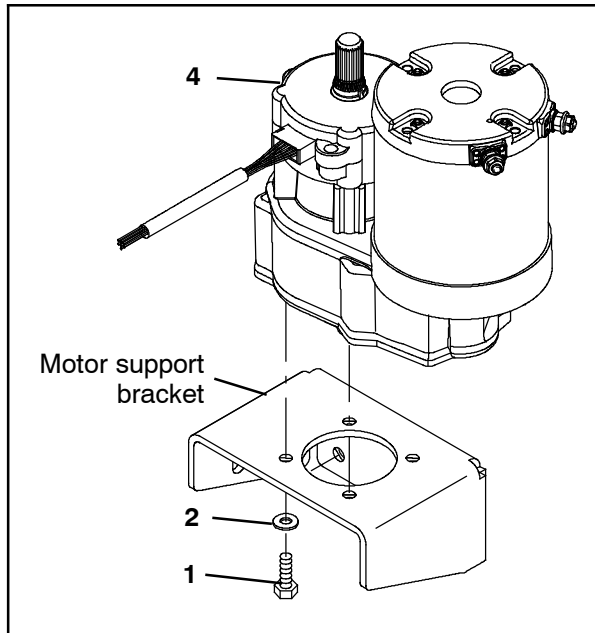


FIG. 7

2. Connect the power steering harness green wire to the power steering motor (4) negative (-) terminal and the blue wire to the power steering motor positive (+) terminal. (Fig. 8/ Fig. 9/ Fig. 11)

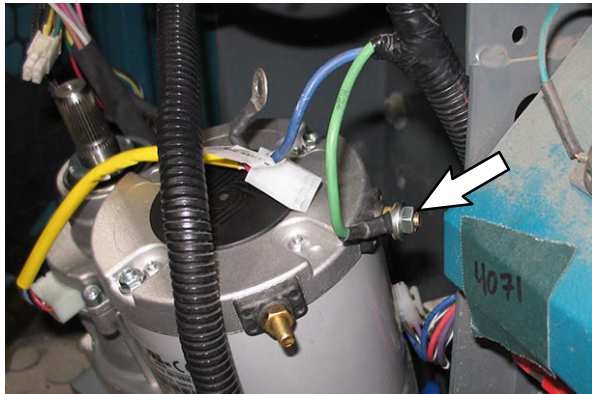


FIG. 8

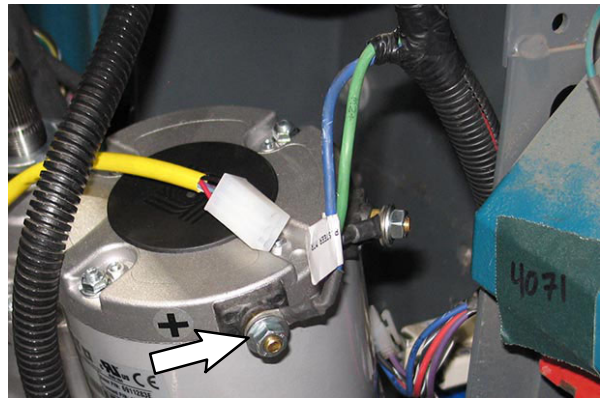


FIG. 9

3. Use five saved SEMS M8 hex screws to install the power steering motor assembly onto the steering support channel. Torque the SEMS M8 hex screws to 22 Nm (16 ft lbs). (Fig. 10)

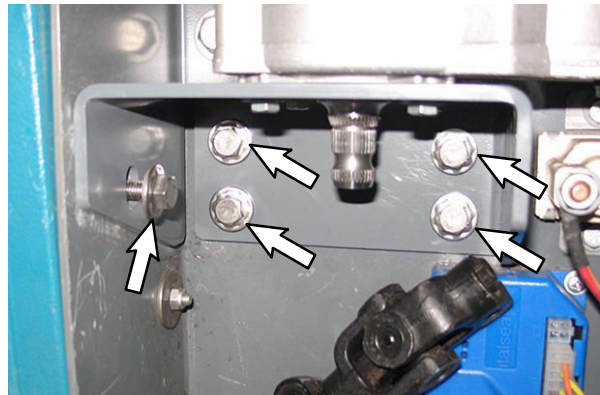


FIG. 10

4. Connect the power steering harness encoder connector to the power steering motor (10). (Fig. 11)

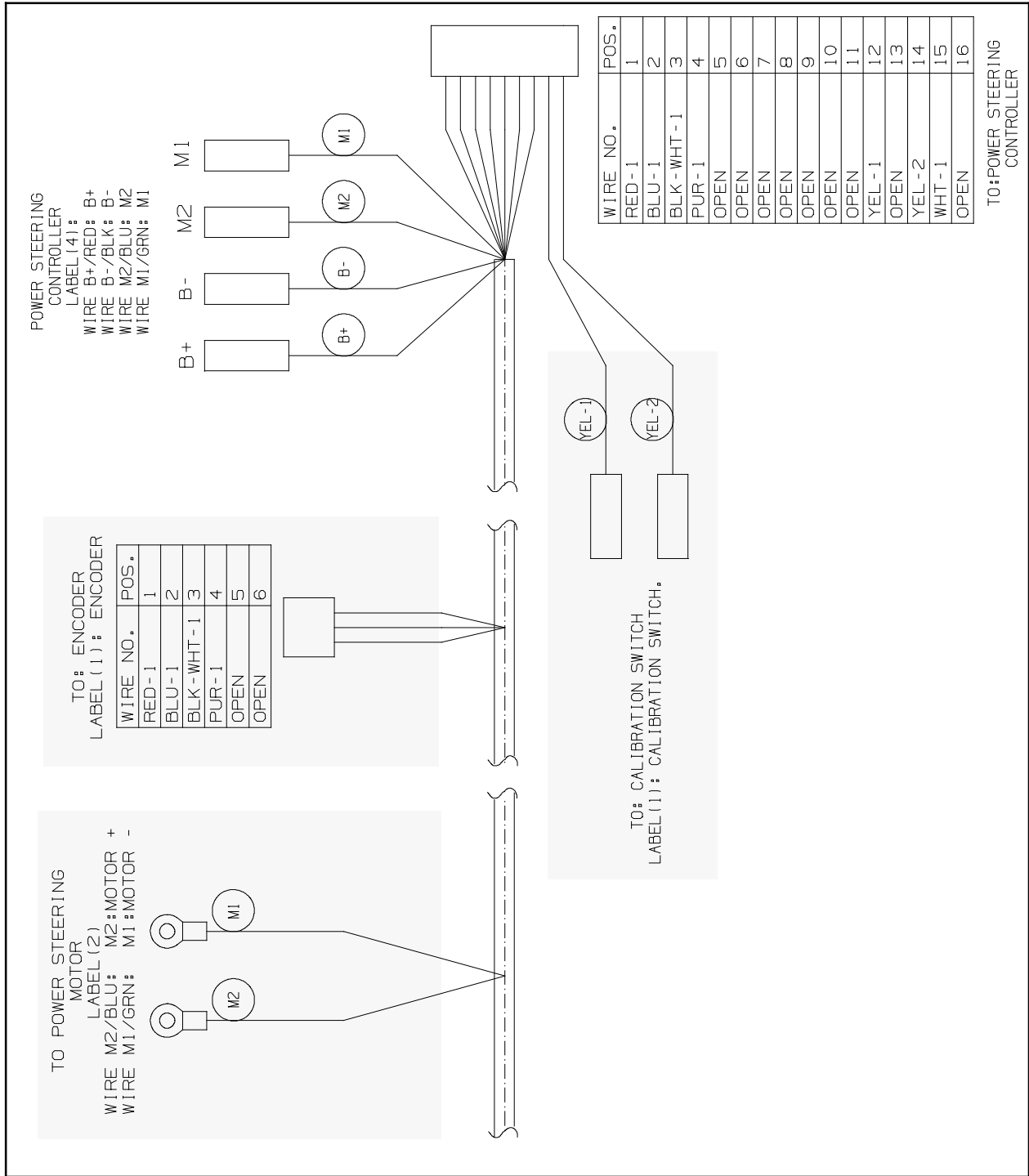


FIG. 11

5. Install bottom of the power steering top shaft onto the power steering motor (4). (Fig. 12)

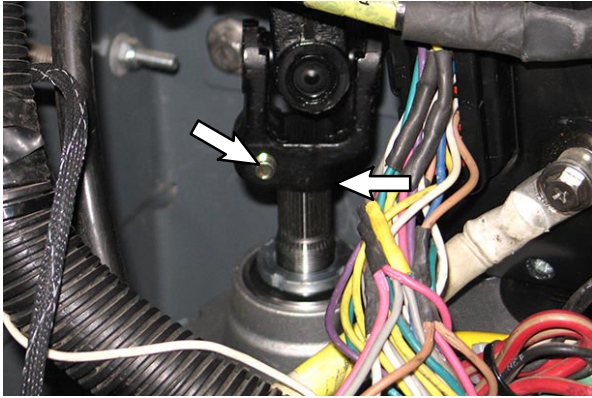


FIG. 12

6. Tighten hardware to secure the power steering motor (4) into the bottom of the power steering top shaft. Torque the SEMS M8 hex screws to 22 Nm (16 ft lbs). (Fig. 13)

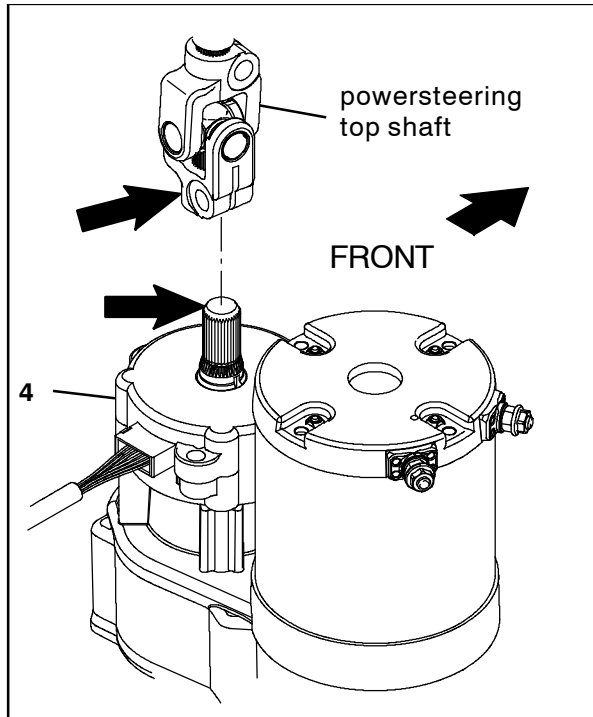


FIG. 13

7. Remove the two M8 hex screws from the lower power steering shaft. Set the M8 hex screws aside. (Fig. 14)

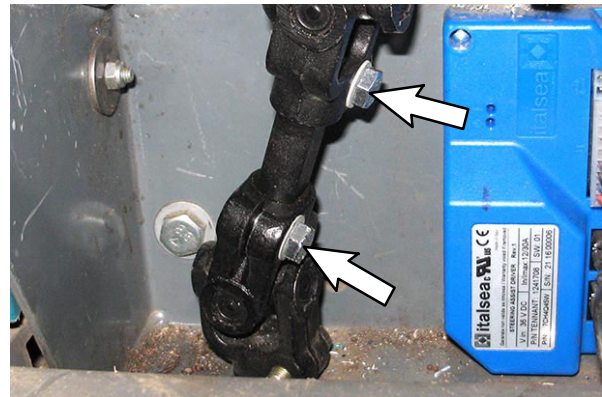


FIG. 14

8. Orient the steering wheel so it is positioned correctly on the machine. (Fig. 15)



FIG. 15

9. Install the lower power steering shaft onto the power steering motor (4) bottom shaft. (Fig. 16)

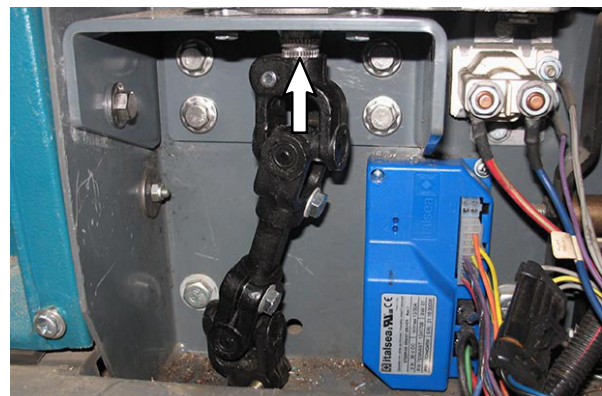


FIG. 16

10. Tap up on the lower power steering shaft up until the power steering motor (4) shaft is flush with the surface on the lower power steering shaft as shown. (Fig. 17)

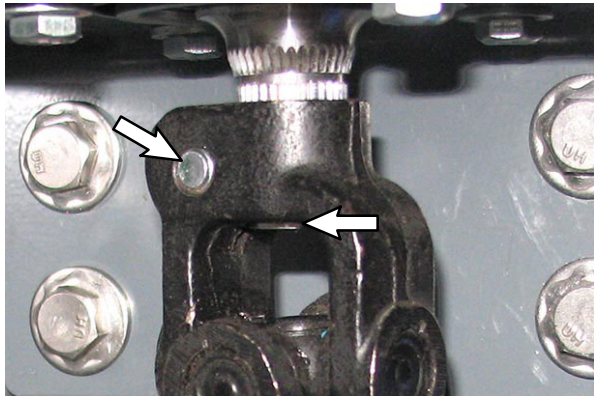


FIG. 17

11. Tighten hardware to secure the lower power steering shaft onto the power steering motor (4) shaft. Torque the SEMS M8 hex screws to 22 Nm (16 ft lbs). (Fig. 17)

12. Reinstall the two previously removed M8 hex screws into the lower power steering shaft. Torque the SEMS M8 hex screws to 22 Nm (16 ft lbs). (Fig. 18)

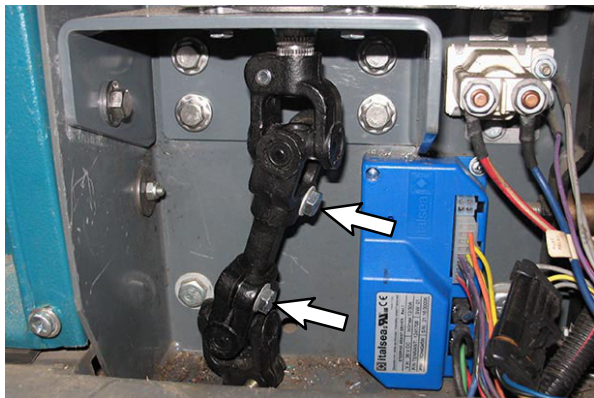


FIG. 18

13. Reconnect the battery cable to the machine.

14. **Calibration:** Connect power steering wire harness YEL- 1 wire and YEL- 2 wire located on the power steering harness (3) to the switch (16). (Fig. 19/Fig. 20/Fig. 11)

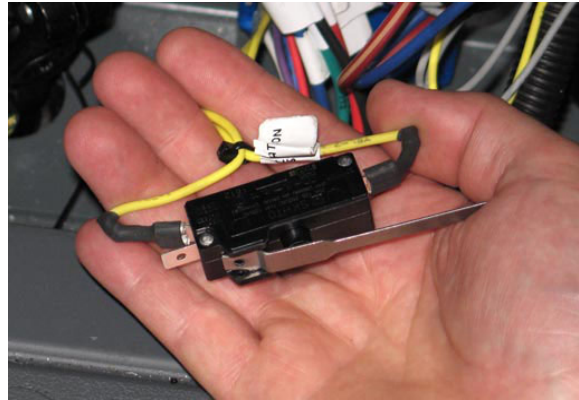


FIG. 19

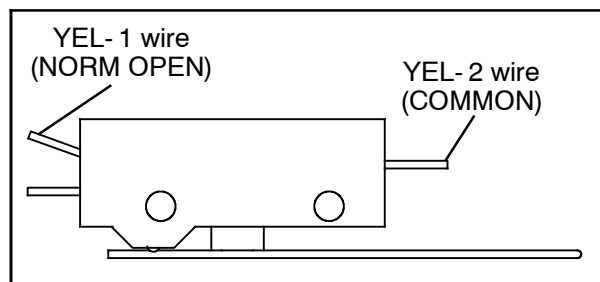


FIG. 20

15. **Calibration:** Turn the key to the ON position

16. **Calibration:** **Turn OFF all machine functions and options.** All functions/options (spray nozzle, lights, etc...) must be **OFF** before the power steering system can be calibrated. The power steering system will not calibrate if functions/options are on.

17. **Calibration:** Quickly squeeze/activate the switch (3) lever four times within 3 seconds. The power steering controller (14) LED will illuminate each time the snap switch lever is squeezed. The LED will remain illuminated for 2 seconds the fourth time the snap switch lever is squeezed to show the sequence is completed. (Fig. 19)

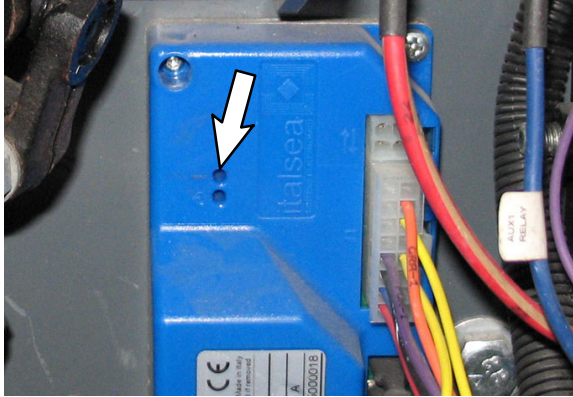


FIG. 21

18. **Calibration:** Test the machine. Turn the steering wheel in the complete range of motion in both directions. The machine should steer smoothly and with the same amount of resistance in both directions. Recenter the steering wheel and repeat calibration if the steering is not functioning smoothly with the same amount of resistance when turned in either direction. Do not turn on any machine functions/options when testing the machine.

NOTE: To complete calibration, all functions and options must remain OFF until after the key is turned to the OFF position.

19. **Calibration:** Turn the key to the OFF position.

20. **Calibration:** Disconnect the power steering wire harness (19) YEL- 1 wire and YEL- 2 wire from the snap switch (3).

21. Reinstall the access panel onto the machine.

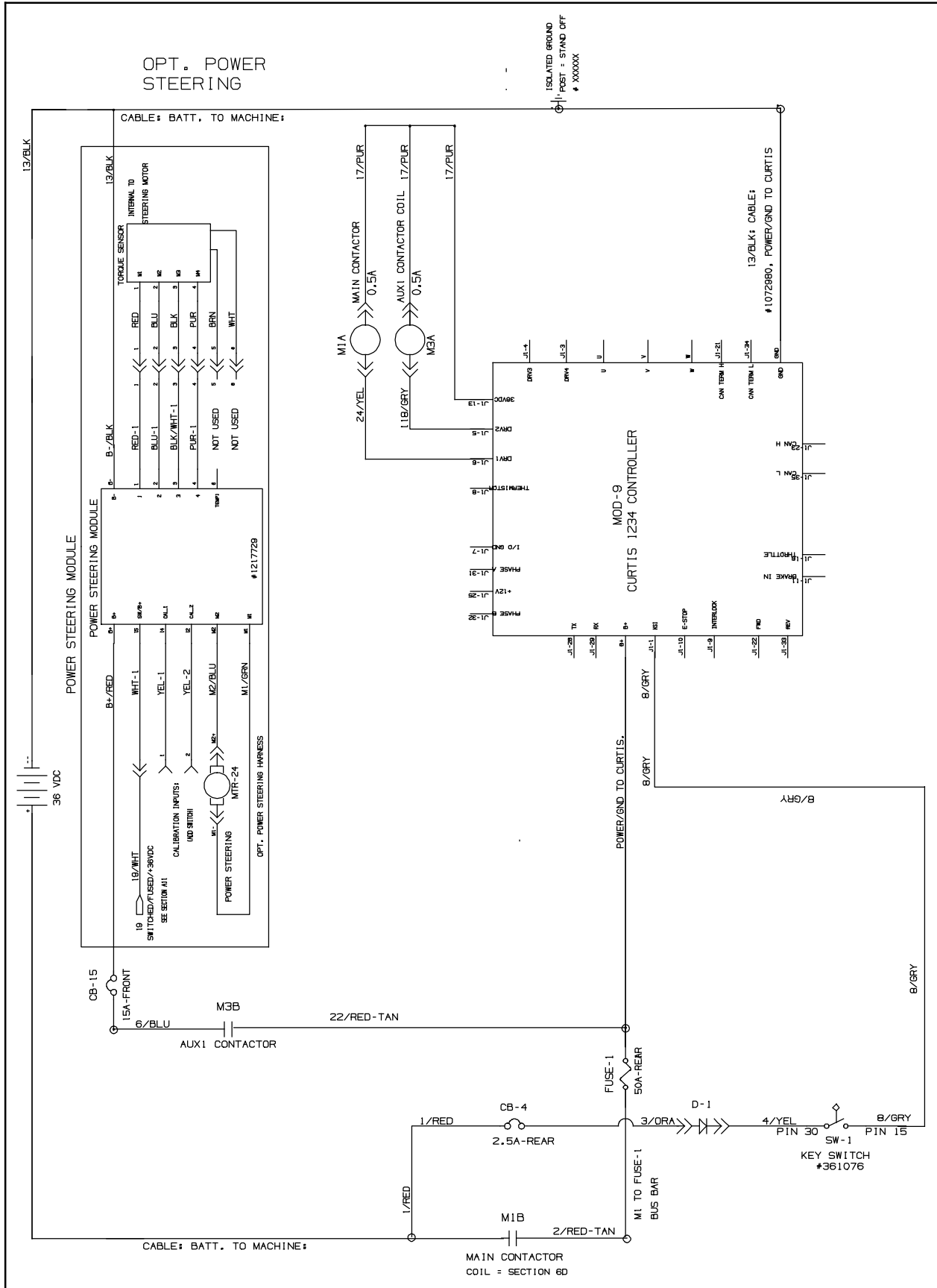


FIG. 22

Bill Of Materials For Kit, Steering Motor, CI [M17/T17] - 9021686

Ref.	Tennant Part No.	Description	Qty.
1	12274	Screw, Hex, M6 X 1.00 X 20, 8.8, NL	4
2	32483	Washer, Flat, 0.25, SAE	4
3	1008142	Switch, Snap, 25A SPDT	1
4	1244815	Motor, Steering, 36V	1

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