



INSTRUCTION BULLETIN

No. 9015766
Machine: T17
Published: 03-2017
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.

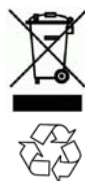
Installation instructions for **kit number 9015765**

SYNOPSIS:

This kit contains the parts needed to install a power steering kit on T17 scrubbers
(**Serial Numbers 011000- ONLY**).
Please follow step-by-step instructions.

SPECIAL TOOLS / CONSIDERATIONS: NONE

(Estimated time to complete: 3 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. Park the machine on a clean level surface, turn off the machine, set the parking brake, and remove the key.

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

2. Disconnect the battery cable from the machine.

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

INSTALLATION:

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

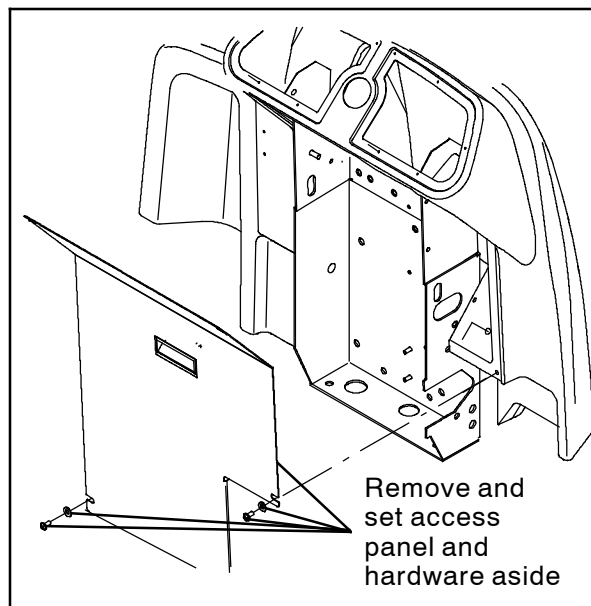


FIG. 1

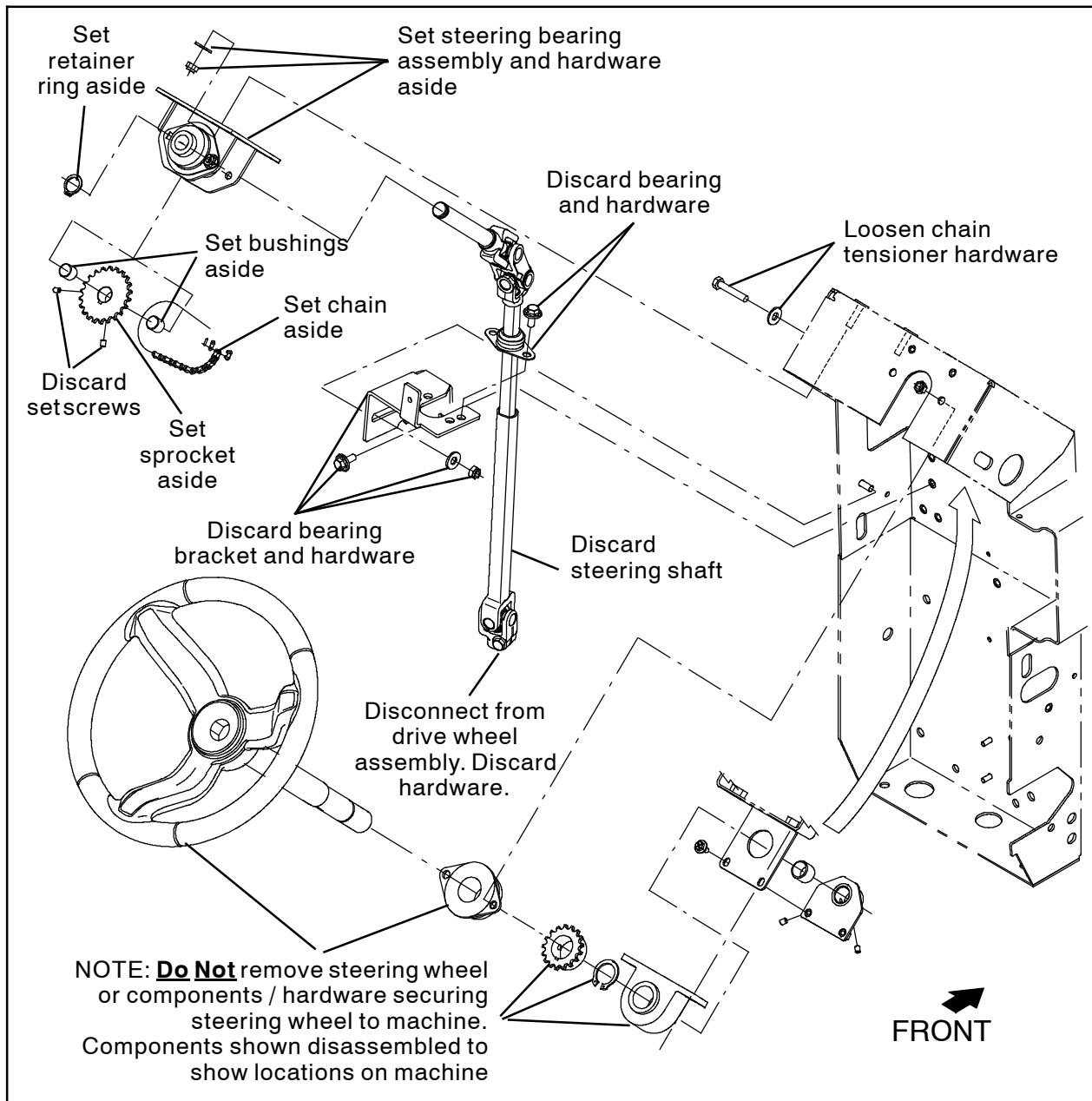


FIG. 2

2. Remove the chain from the sprocket on the steering wheel assembly and the sprocket in the steering bearing assembly. Set the chain aside. (Fig. 2)
3. Remove the hardware securing the steering bearing assembly to the machine. Set the hardware aside. (Fig. 2)
4. Remove the hardware securing the bearing bracket to the machine. Discard the hardware. (Fig. 2)
5. Disconnect the steering shaft from the steering transmission input shaft. Discard the hardware. (Fig. 2)
6. Remove the steering shaft / items attached to the steering shaft from the machine. Remove the steering bearing assembly from the steering shaft and set steering bearing assembly aside. Discard the steering shaft / and remaining items attached to the steering shaft. (Fig. 2)
7. Remove the steering bearing assembly from the steering shaft and set steering bearing assembly, sprocket, and both bushings aside. Discard the steering shaft / remaining items attached to the steering shaft / set screws. (Fig. 2)

8. Loosen the hardware securing both flange bearings to the bearing support plate. Do not completely disassemble the flange bearings from the bearing support plate. (Fig. 2 / Fig. 3)

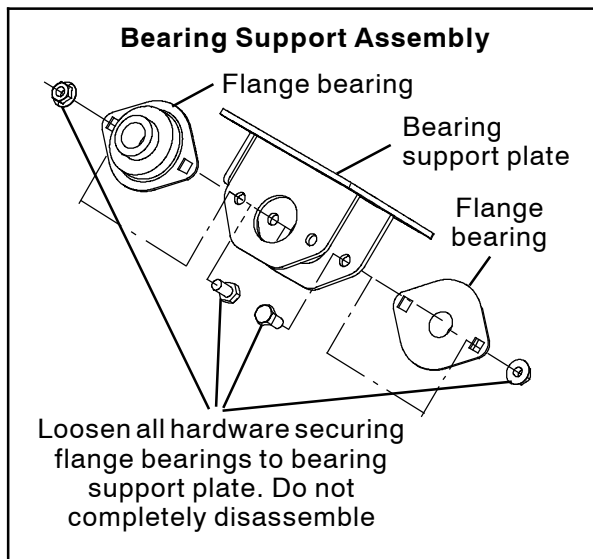


FIG. 3

9. Insert the key (18) into the notch in the upper power steering shaft (6). (Fig. 5)
10. Insert the upper power steering shaft (6) into the bottom of the bearing support assembly, and slide a bushing, the sprocket (be sure the key (18) in the upper power steering shaft is aligned in with the notch in the sprocket), and the second bushing onto the shaft, and then slide the upper power steering shaft up through the top of the bearing support assembly. (Fig. 5)
11. Install both set screws (17) into the sprocket in the bearing support assembly to secure the upper power steering shaft (6) in the sprocket. (Fig. 5)
12. Tighten the loosened hardware to secure the flange bearings to the bearing support plate assembly. (Fig. 5)
13. Install the upper power steering shaft (6) / bearing support assembly into the steering column. Do not completely tighten the hardware. (Fig. 5)

14. Reinstall the chain onto the sprocket on the steering wheel assembly and the sprocket in the bearing support assembly. (Fig. 4 / Fig. 5)

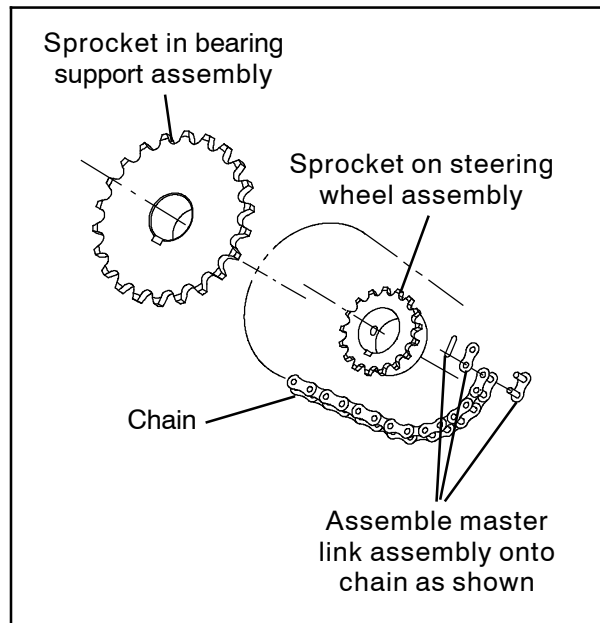


FIG. 4

15. Tighten the chain tensioner hardware into the bearing support assembly. There should be minimal flex (flex of one chain link) in the chain. (Fig. 4 / Fig. 5)
16. Align the sprocket in the bearing support assembly with the sprocket on the steering wheel assembly. The sprocket in the bearing support assembly must be aligned with the sprocket on the steering wheel assembly. (Fig. 4 / Fig. 5)
17. Tighten the hardware to fully secure the bearing support assembly to the steering column. (Fig. 5)
18. Use two M8 hex screws (2), four flat washers (5), and two M8 hex screws (3) to install the flange bearing (4) onto the steering bearing bracket (7). (Fig. 5)

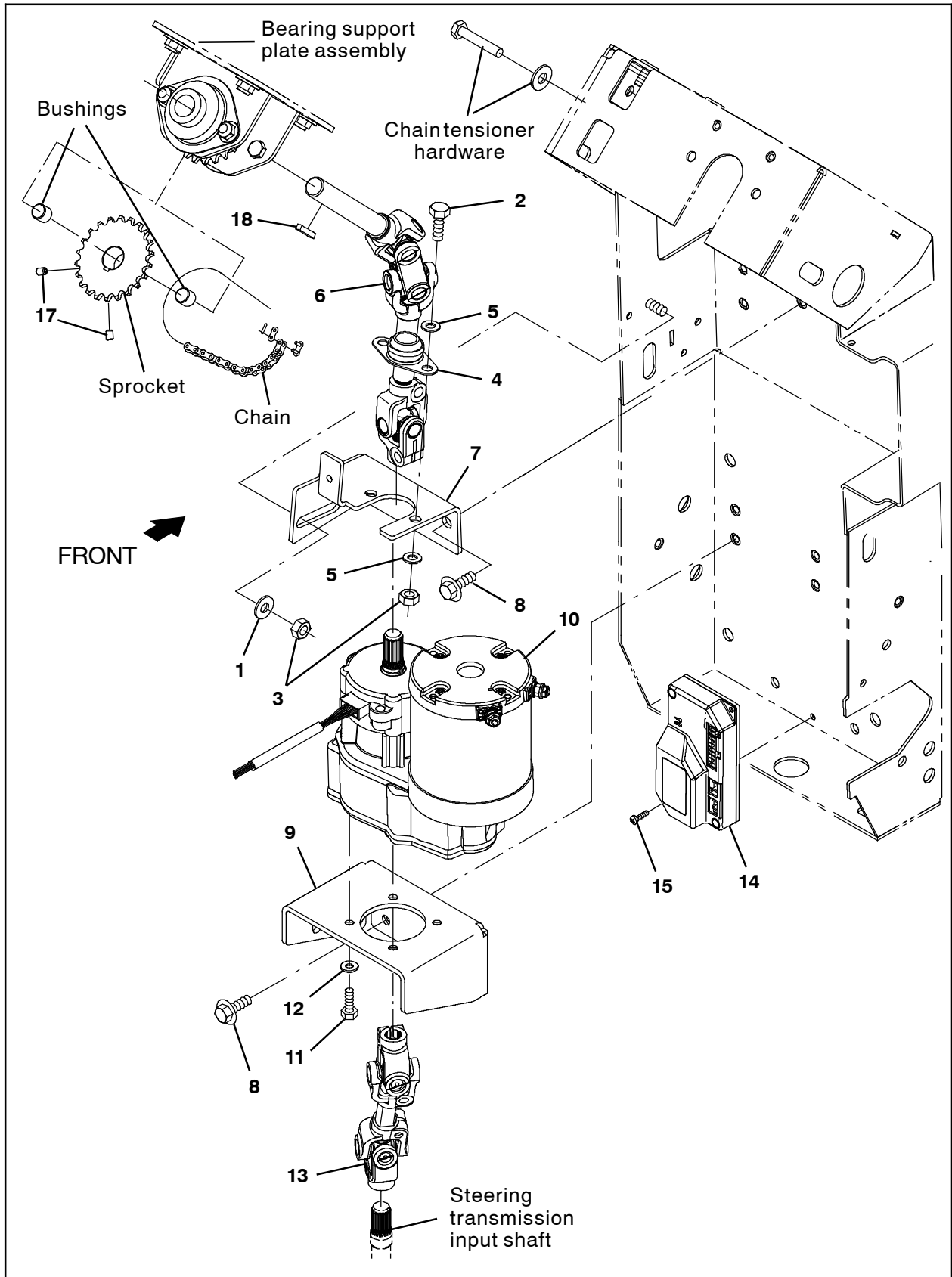


FIG. 5

- Remove the hex screw securing the lower portion of the upper power steering shaft (6) to the top portion. Set the hex screw aside. (Fig. 6)

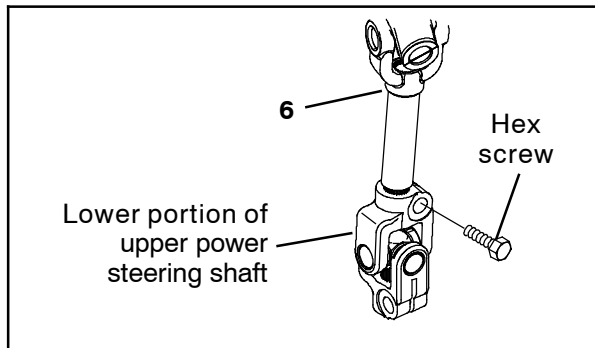


FIG. 6

- Remove the lower portion of the upper power steering shaft (6) from the top portion. (Fig. 6)
- Slide the steering bearing bracket (7) / flange bearing (4) onto the shaft of the upper power steering shaft (6) and use two SEMS M8 hex screws (8) to secure the steering bearing bracket to the steering column. (Fig. 5)
- Use a M8 hex nut (3) and a flat washer (1) to secure the steering bearing bracket (7) to the weld stud in the steering column. (Fig. 5)
- Reinstall the bottom portion of the upper power steering shaft (6) onto the top portion. (Fig. 5 / Fig. 6)
- Use four M6 hex screws (11) and four flat washers (12) to install the motor support bracket (9) onto the power steering motor assembly (10). (Fig. 5)
- Use two hex nuts included with the power steering motor assembly (10), two lock washers (22), and two flat washers (12) to connect the power steering harness (19) to the power steering motor assembly. (Fig. 7 / Fig. 14)

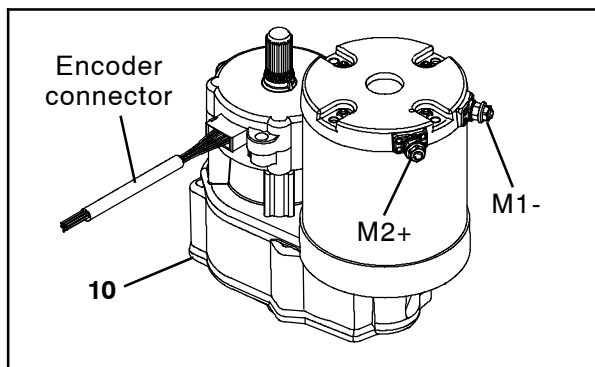


FIG. 7

- Connect the power steering harness (19) to the steering controller (14). (Fig. 8 / Fig. 14)

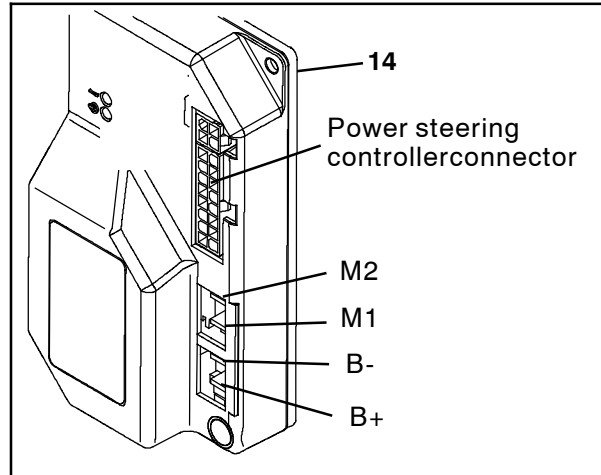


FIG. 8

- Loosen the hex screw in the lower portion of the upper power steering shaft (6). (Fig. 9 / Fig. 5)

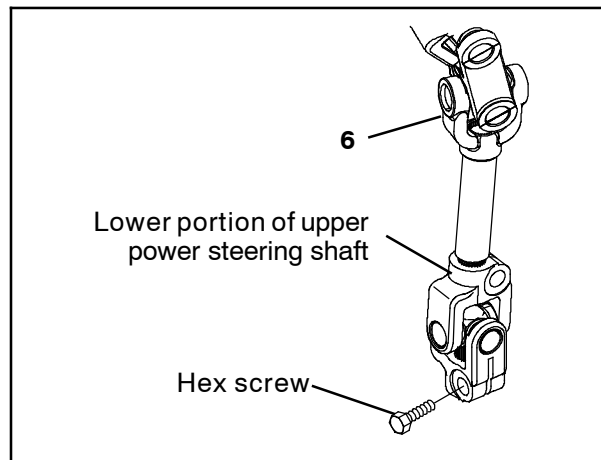


FIG. 9

- Slide the shaft of the power steering motor assembly (10) into the lower portion of the upper power steering shaft (6)
- Use five SEMS hex screws (8) to install the motor support bracket (9) / power steering motor assembly (10) into the steering column. (Fig. 5)
- Tighten the hex screw into the lower portion of the upper power steering shaft (6) to secure the shaft of the power steering motor assembly (10) into place. (Fig. 9 / Fig. 5)
- Use two M4 pan screws (15) to install the steering controller (14) into the steering column. (Fig. 5)

32. Connect the power steering harness (19) to the main wire harness. (Fig. 14 / Fig. 18)
33. Connect the power steering harness (19) to the Curtis controller B- terminal. (Fig. 10 / Fig. 14)

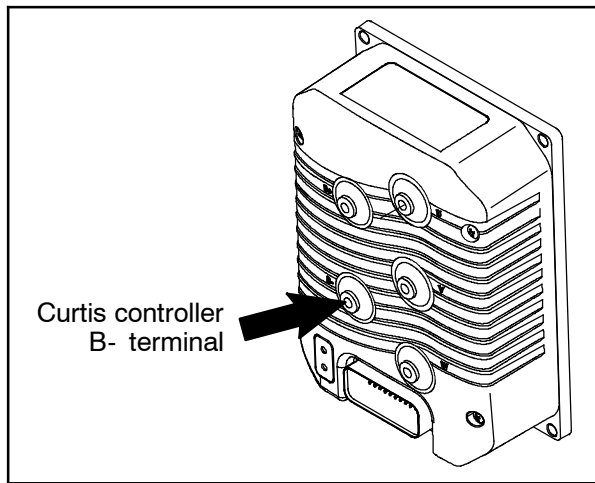


FIG. 10

34. Loosen the two hex screws in the lower power steering shaft (13). (Fig. 11 / Fig. 5)

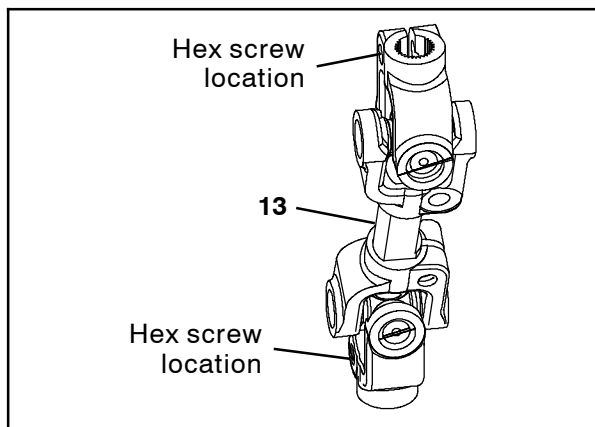


FIG. 11

35. Slide the lower power steering shaft (13) onto the lower shaft of the power steering motor assembly (10) and tighten the hex screw to secure the lower power steering shaft to the power steering motor assembly. (Fig. 11 / Fig. 5)

36. Carefully pull the circuit breaker bracket out far enough to access the main wire harness connectors located behind the bracket. **Do Not** break any wire connections. (Fig. 12)

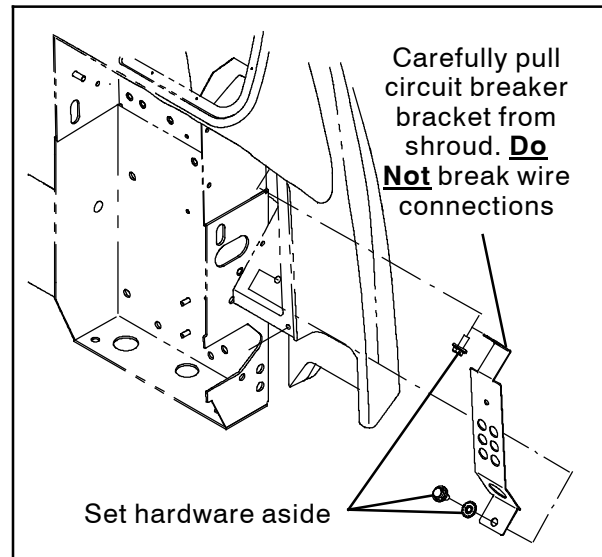


FIG. 12

37. Connect the power steering harness (19) and main wire harness to the 30- Amp circuit breaker (20). (Fig. 13 / Fig. 14)

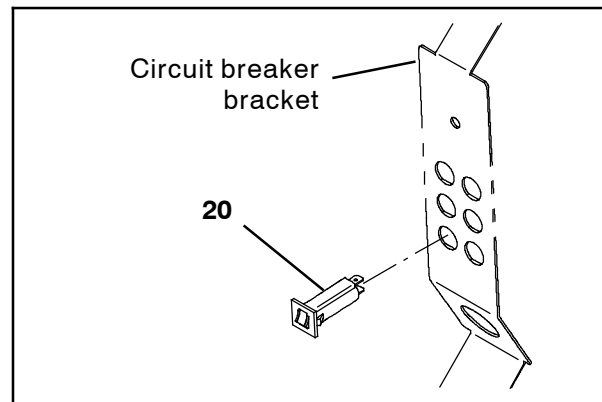


FIG. 13

38. Insert the 30- Amp circuit breaker (9) into circuit breaker location 15 in the circuit breaker bracket. (Fig. 13)
39. Reinstall the circuit breaker bracket onto the machine. (Fig.12)

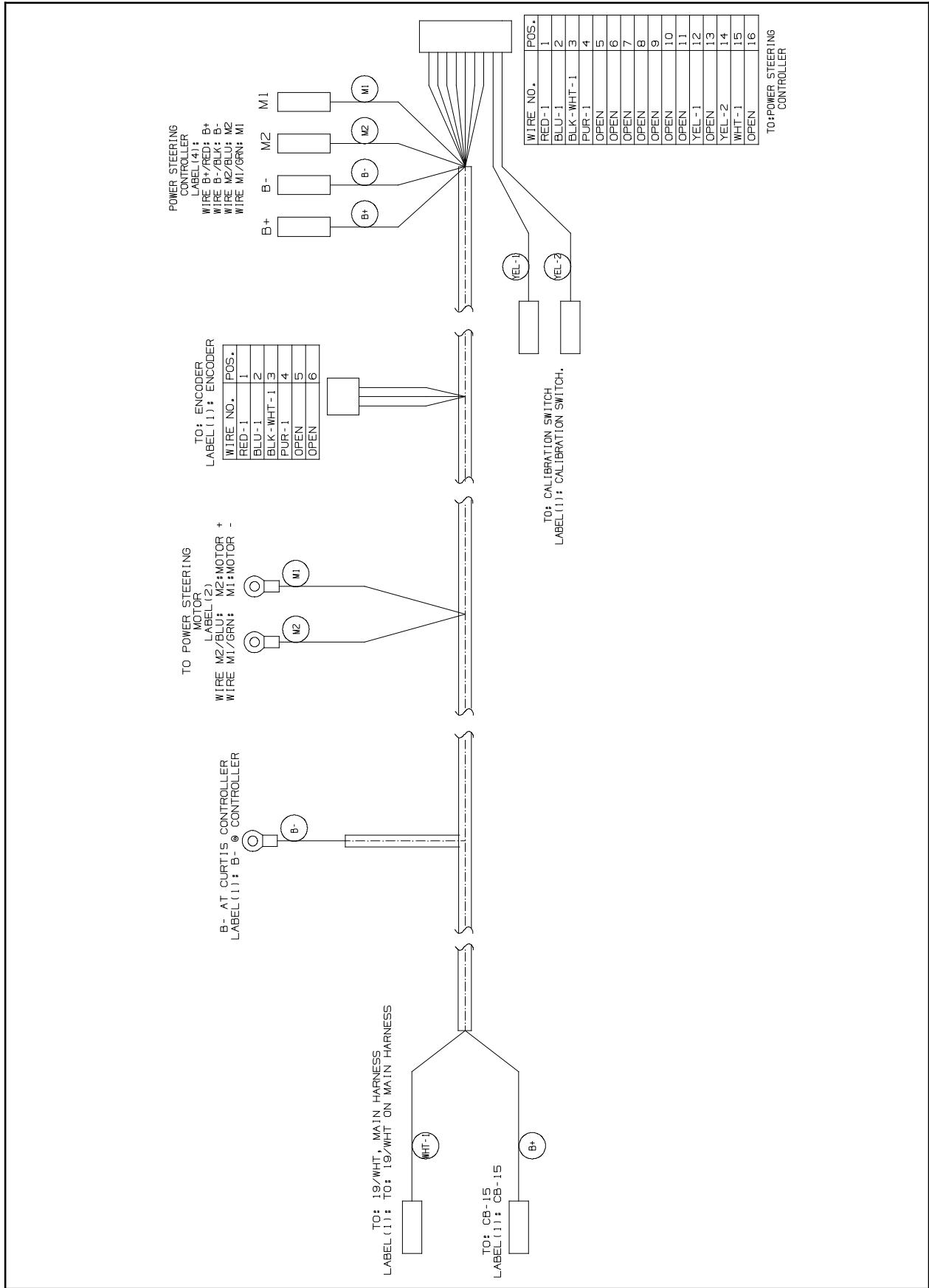


FIG. 14

40. Reconnect the battery cable to the machine.

41. **Calibration:** Connect power steering wire harness YEL- 1 wire and YEL- 2 wire located on the power steering harness (19) to the switch (16). (Fig. 15 / Fig. 16 / Fig. 14)

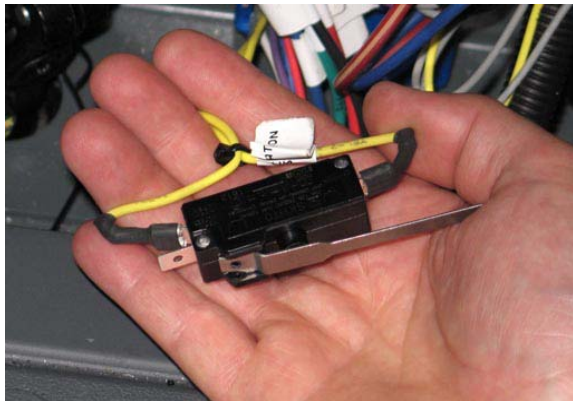


FIG. 15

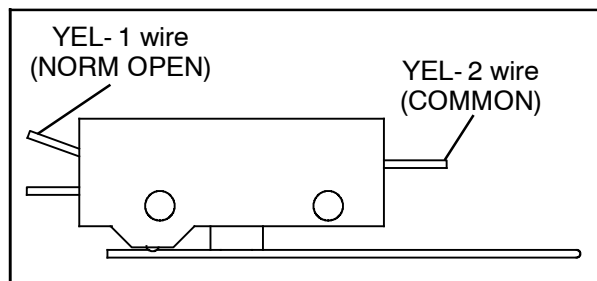


FIG. 16

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

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

44. **Calibration:** Quickly squeeze / activate the switch (16) 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. 17)

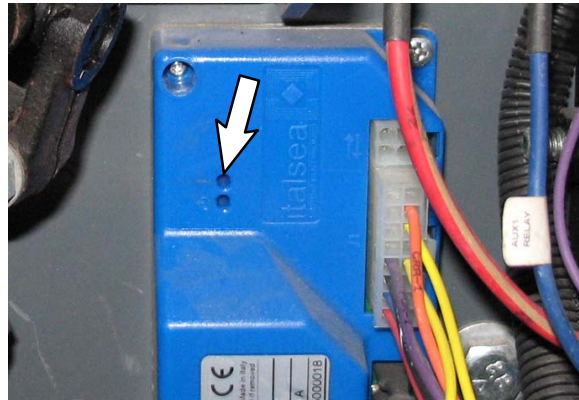


FIG. 17

45. Slide the lower power steering shaft (13) onto the steering transmission input shaft and tighten the hex screw to secure the lower power steering shaft to the steering transmission input shaft. (Fig. 5 / Fig. 11)

46. 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.

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

48. **Calibration:** Disconnect the power steering wire harness (19) YEL- 1 wire and YEL- 2 wire from the snap switch (16).

49. Reinstall the access panel onto the machine.

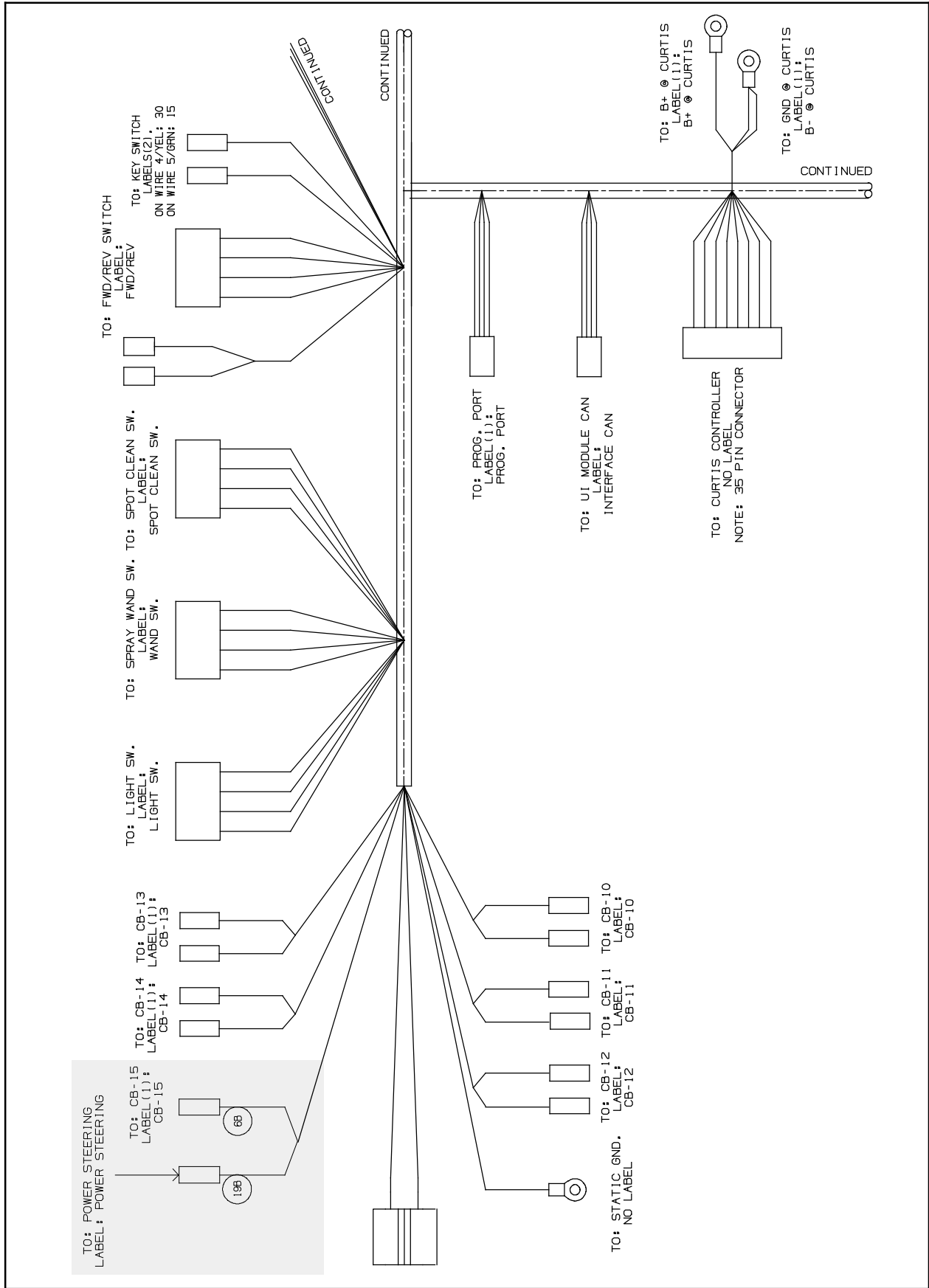


FIG. 18

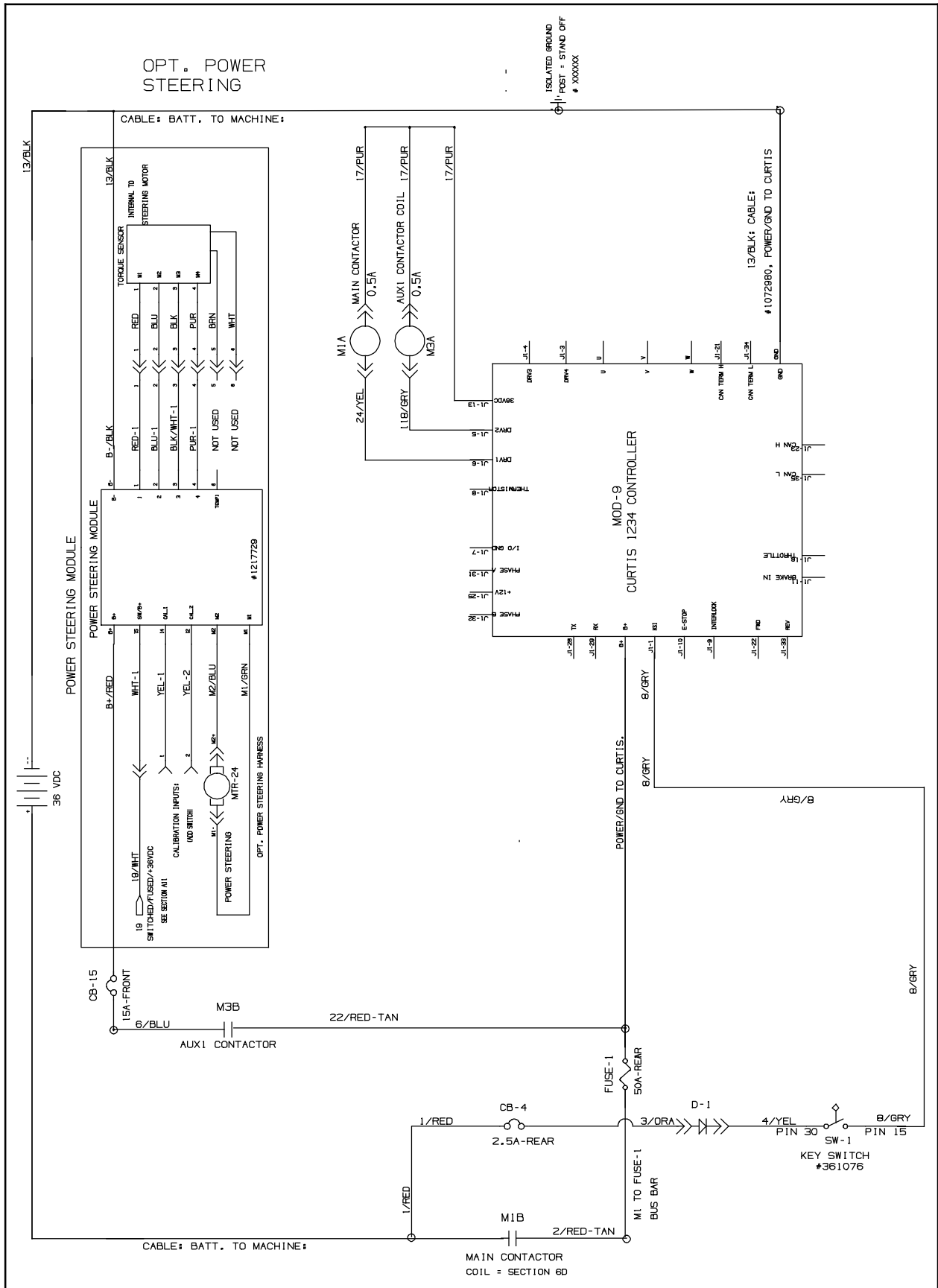


FIG. 19

Bill Of Materials For Steering Kit, Power, DI [T17] - 9015765

| Ref. | Tennant Part No. | Description | Qty. |
|-------------|-----------------------------|--------------------------------------|-------------|
| 1 | 32491 | Washer, Flat, 0.31, Std | 4 |
| 2 | 16931 | Screw, Hex, M8 X 1.25 X 20, 8.8 | 2 |
| 3 | 08709 | Nut, Hex, Lock, M8 X 1.25, NI | 5 |
| 4 | 223065 | Bearing, Flng, 2hole, 0.75b [Nyl] | 1 |
| 5 | 39349 | Washer, Flat, 0.31, SAE | 4 |
| 6 | 1224777 | Shaft, Steering, Power, Upper | 1 |
| 7 | 1214737 | Bracket, Brg, Steering | 1 |
| 8 | 1020341 | Screw, Hex, M8 X 1.25 X 20, SS, SEMS | 7 |
| 9 | 1214622 | Bracket, Sppt, Motor | 1 |
| 10 | 1217601 | Motor Assy, Steering, Power, 36v | 1 |
| 11 | 12274 | Screw, Hex, M6 X 1.00 X 20, 8.8, NI | 4 |
| 12 | 32483 | Washer, Flat, 0.25, SAE | 6 |
| 13 | 1224776 | Shaft, Steering, Power, Lower | 1 |
| 14 | 1217792 | Controller, Steering, 36v | 1 |
| 15 | 06927 | Screw, Pan, Phl, M4 X 0.70 X 16, 4.8 | 2 |
| 16 | 1008142 | Switch, Snap, 25a Spdt | 1 |
| 17 | 1224893 | Screw, Set, M8 X 1.25 X 8, Lock | 2 |
| 18 | 00911 | Key, Sq, 0.19 X 0.19, 0.75l | 1 |
| 19 | 1074598 | Harness, Ele [Steering, M17/T17] | 1 |
| 20 | 383725 | Circuit Breaker, 30.0a, Resettable | 1 |
| 21 | 1210807 | Wire, Tie [w/.25" Fir Tree Clip] | 2 |
| 22 | 07515 | Washer, Lock, Int, 0.25, SS | 2 |

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