



INSTRUCTION BULLETIN

No. 328336
Machine: T12
Published: 02-2013
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 322363**

SYNOPSIS:

This kit contains the parts needed to install the steering support kit onto T12 scrubbers.
Please follow step-by-step instructions.

SPECIAL TOOLS / CONSIDERATIONS: NONE

(Estimated time to complete: 1 hour)



PROTECT THE ENVIRONMENT

Please dispose of packaging materials, old machine components, and hazardous fluids in an environmentally safe manner according to local waste disposal regulations.

Always remember to recycle.

PREPARATION:

1. Park the machine on a clean level surface, turn off the machine, 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.**

3. Remove the access panel from the steering channel and remove the hardware securing the access panel to the access panel cable. Set the access panel and hardware aside.

INSTALLATION - STEERING SUPPORT:

1. Cut the cable tie securing the main wire harness to the steering channel. (Fig. 1 / Fig. 6)



FIG. 1

2. Remove the hardware securing the controller to the steering channel. Take care to not break any wire / cable connections to the controller. Set the hardware aside. (Fig. 6)
3. Use a cable tie to secure the controller up and out of the area near the bottom of the steering channel. (Fig. 2)



FIG. 2

4. Remove the hardware securing the steering channel to the frame of the machine. Discard hardware. (Fig. 3 / Fig. 6)

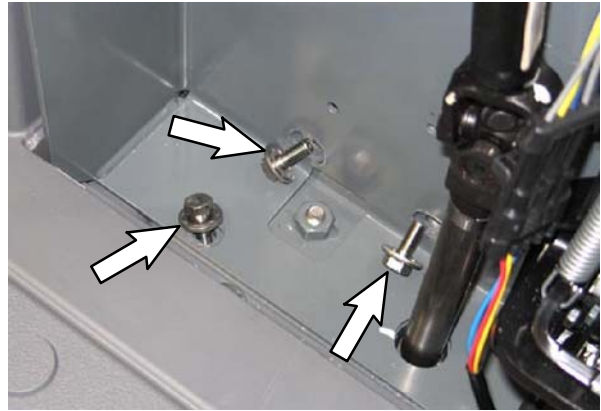


FIG. 3

5. Cut the cable tie securing the main wire harness to tilt leg bracket and carefully pull the main wire harness down. (Fig. 4 / Fig. 5)

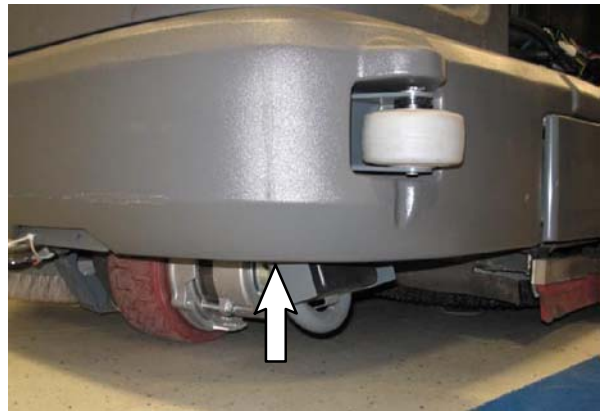


FIG. 4



FIG. 5

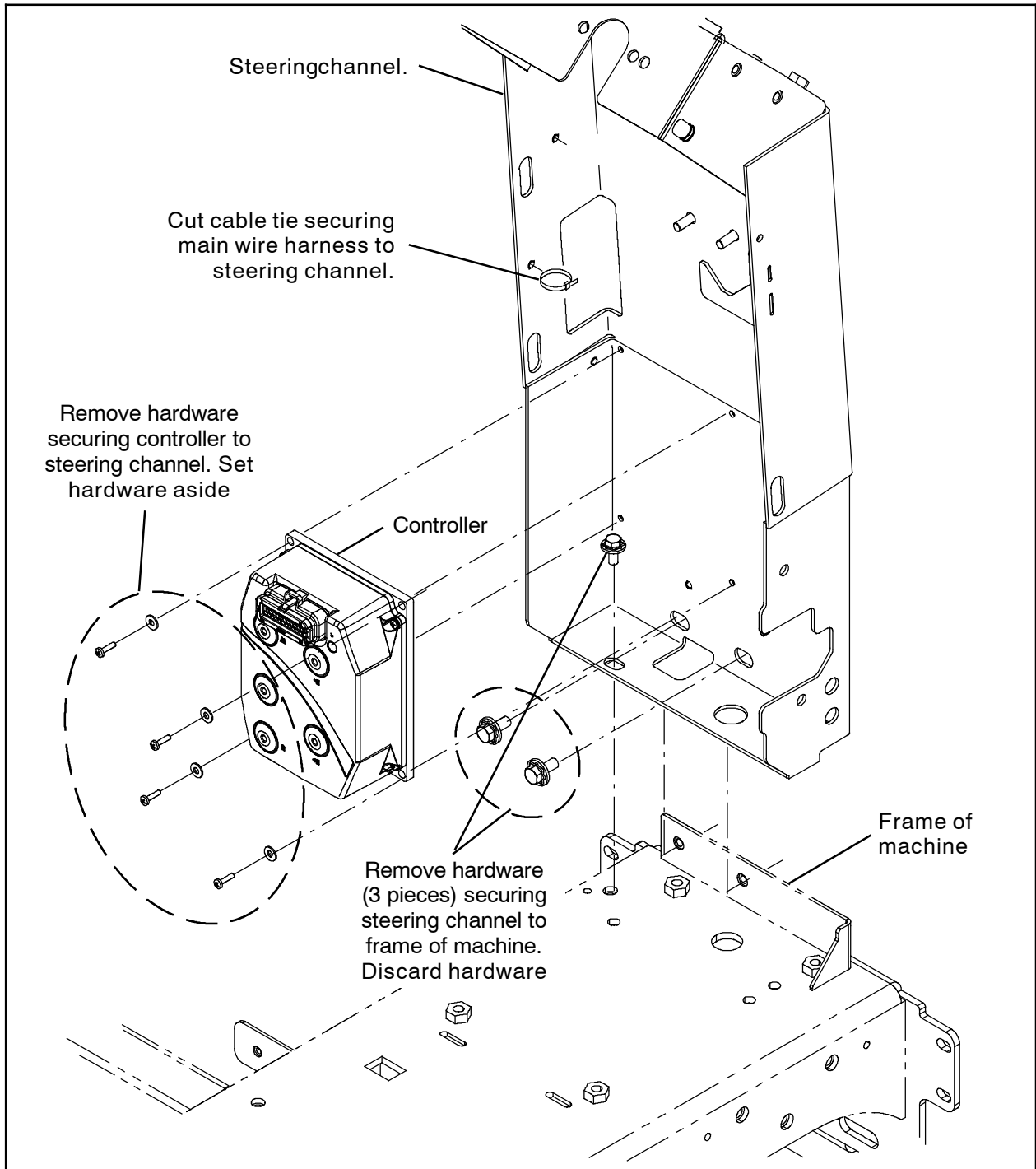


FIG. 6

6. Set the reinforcement plate (1) onto the frame of the machine. (Fig. 7)



FIG. 7

7. Apply blue Loctite® onto two M8 hex screws (2).
8. Use the two M8 hex screws (2) and two flat washers (3) to secure the reinforcement plate (1) to the steering channel. Tighten the M8 hex screws to 18 ft lbs - 24.4 Nm.
9. Apply blue Loctite onto another M8 hex screw (2).
10. Use another M8 hex screw (2) and a flat washer (3) to secure the reinforcement plate (1) to the frame of the machine. Tighten the M8 hex screw to 18 ft lbs - 24.4 Nm. (Fig. 8)

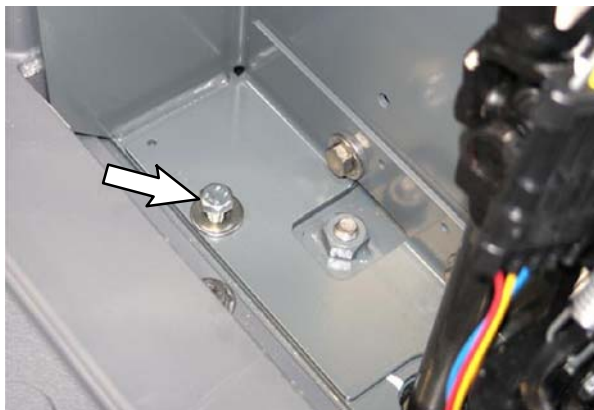


FIG. 8

11. Place the shroud protection bracket (6) onto the edge of the operator compartment floor board. (Fig. 9)

NOTE: The shroud protection bracket (6) must always remain on the operator compartment floor board to avoid damaging the floor board while drilling holes into the reinforcement plate (1) / installing the reinforcement plate onto the machine.

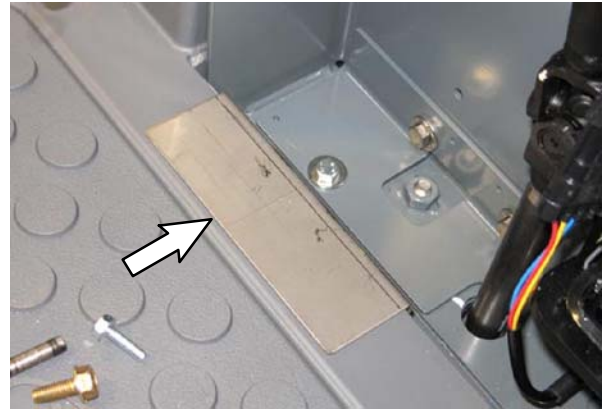


FIG. 9

12. Use the 7/32 in drill bit (7) to drill through the two existing holes in the reinforcement plate (1), through the steering channel, and through the front portion of the frame of the machine. **Do Not** drill through the front of the machine. Stop drilling immediately after drilling through the front of the frame to avoid damaging exterior shrouding. (Fig. 10)



FIG. 10

13. Use the 7/32 in drill bit (7) to drill through the remaining hole in the reinforcement plate (1) and through the frame of the machine. **Do Not** drill through the main wire harness. Stop drilling immediately after drilling through the frame to avoid damaging the main wire harness. (Fig. 11)



FIG. 11

14. Use the 19/64 in drill bit (8) to widen the hole in the reinforcement plate (1) and the hole drilled into the frame of the machine in the previous step. **Do Not** drill through the main wire harness. Stop drilling immediately after drilling through the frame to avoid damaging the main wire harness. (Fig. 11)
15. Use the 11/32 in drill bit (9) to widen the hole in the reinforcement plate (1). **Do Not** drill into the frame of the machine. (Fig. 11)
16. Use one M8 FMG screw (4) to firmly secure the reinforcement plate (1) to the frame of the machine. **Do Not** over torque the M8 FMG hex screw. Torque to 15 ft lbs - 20.3 Nm maximum. (Fig. 12)



FIG. 12

17. Use two M6 FMG hex screws (5) to firmly secure the reinforcement plate (1) to the front portion of the frame of the machine. **Do Not** over torque the M6 FMG hex screws. Torque to 6 ft lbs - 8.1 Nm maximum. (Fig. 13)

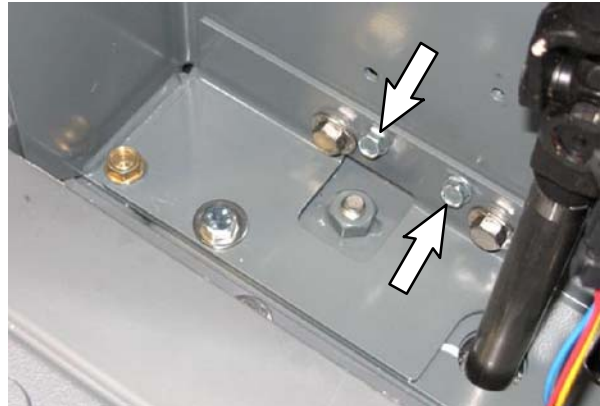


FIG. 13

18. Remove the M8 hex screw securing the steering channel to the frame of the machine. (Fig. 14)

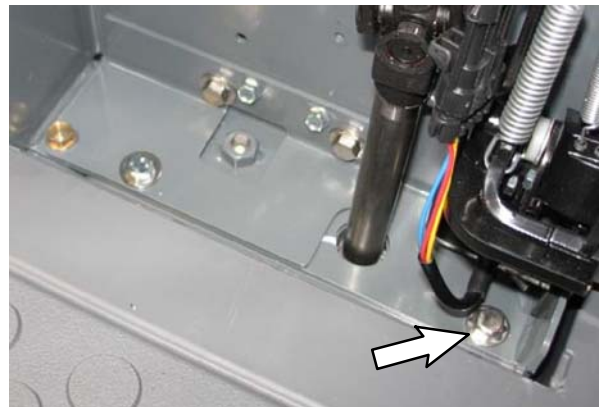


FIG. 14

19. Apply blue Loctite onto the removed M8 hex screw. (Fig. 14)
20. Reinstall the removed M8 hex screw. Tighten the hex screw to 18 ft lbs - 24.4 Nm. (Fig. 14)
21. Clean the steel chips from around the area on the frame of the machine where the reinforcement plate (1) was installed.
22. Ensure torque for all M8 hex screws securing the front shroud to the steering channel is 15 ft lbs - 20.3 Nm. (Fig. 19)
23. Cut the cable tie holding the controller out of the area near the bottom of the steering channel.

24. Reinstall the controller onto the steering channel. To make installation easier, slide a flat washer onto a M4 pan screw, insert the M4 pan screw into the controller, position the screw driver into the M4 pan screw, and thread the M4 pan screw into the steering channel. (Fig. 15 / Fig. 16)



FIG. 15

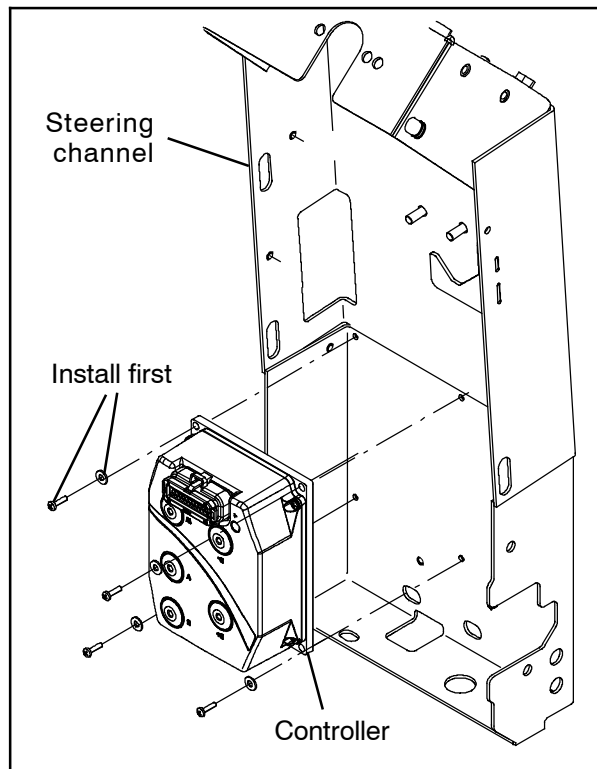


FIG. 16

25. Reinstall the remaining three M4 pan screws / flat washers to completely secure the controller to the steering channel. (Fig. 16)

26. Use a cable tie (10) to secure the main wire harness to the steering channel. (Fig. 17 / Fig. 19)

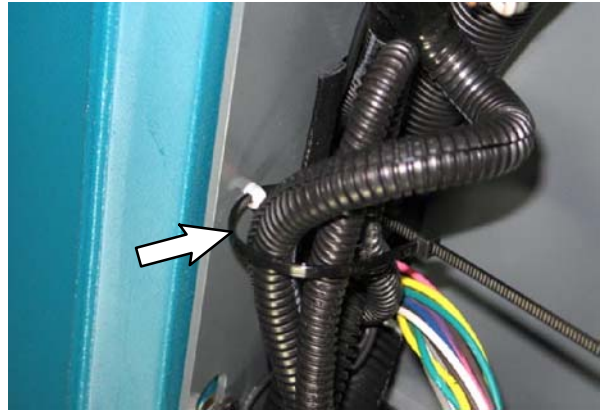


FIG. 17

27. Reconnect the access panel cable to the access panel and reinstall the access panel onto the steering channel.

28. Use a cable tie to secure the main wire harness to the bottom to the frame of the machine. (Fig. 18)



FIG. 18

29. Reconnect the battery cable to the machine.

30. Start and test the machine to ensure it operates.

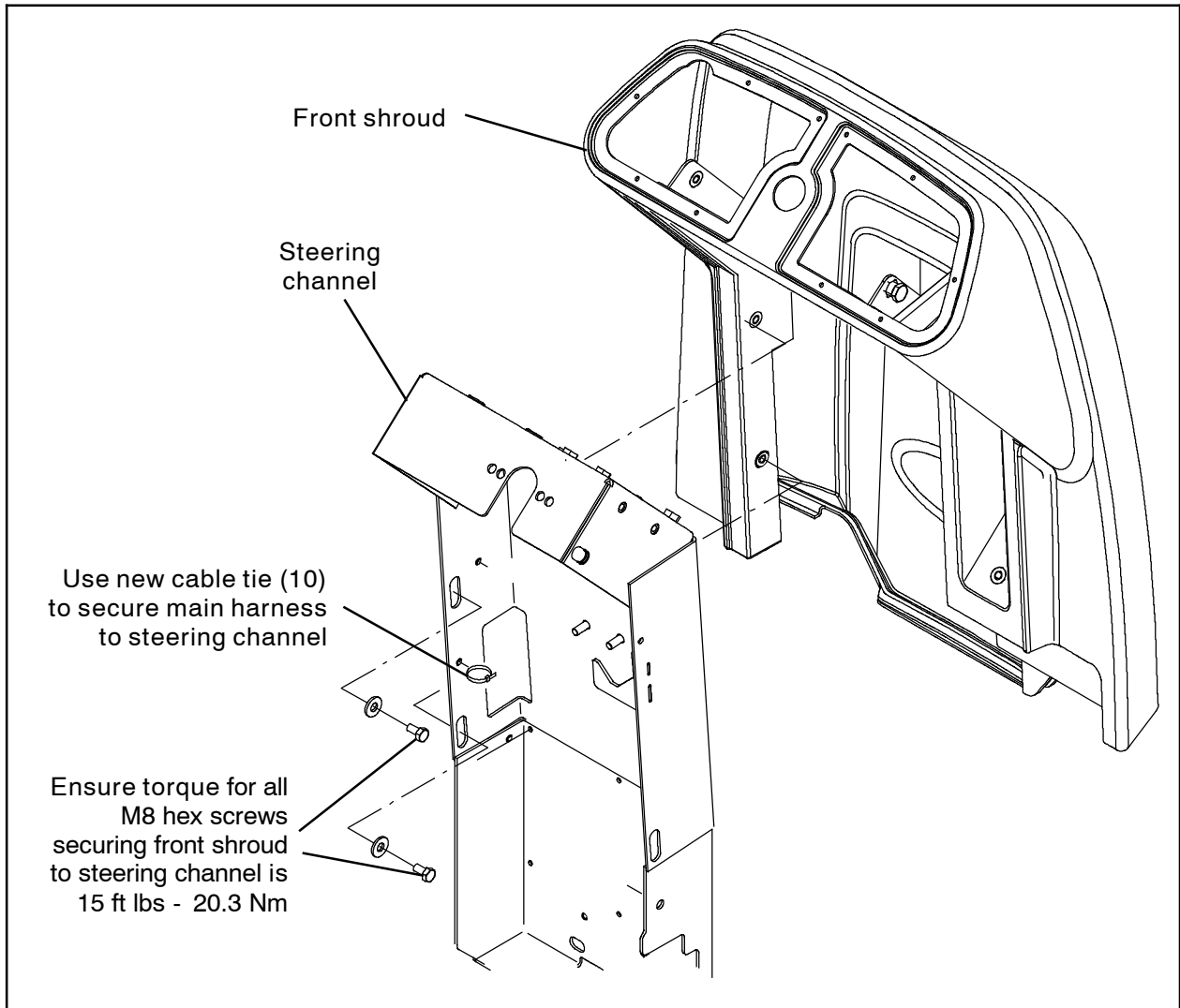


FIG. 19

INSTALLATION - SEAT BRACKET (Machines Equipped With Optional Deluxe Seat Only):

1. Open operator seat and lock the operator seat into the open position.
2. Disconnect the main wire harness from the operator seat switch. (Fig. 20)



FIG. 20

3. Position a 12"- 18" long section of 2" X 4" between the seat channel and front of battery compartment. (Fig. 21)



FIG. 21

4. Disconnect the gas spring from the machine. Set the gas spring mounting hardware aside. (Fig. 22 / Fig. 26)



FIG. 22

5. Remove the four M8 hex screws securing the operator seat shroud to the seat channel. Set the M8 hex screws aside. (Fig. 23 / Fig. 27)

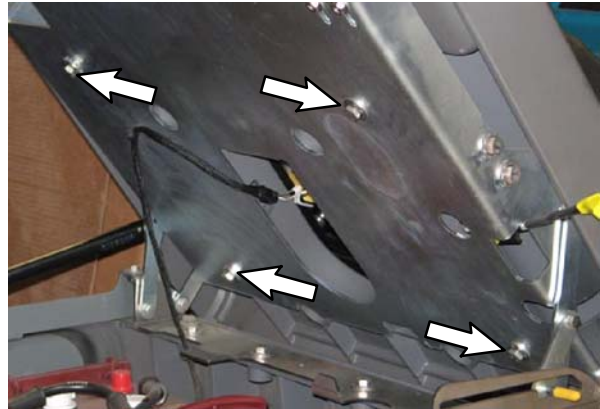


FIG. 23

6. Lift the operator seat / operator seat shroud from the seat channel.

NOTE: Due to weight of operator seat / operator seat shroud, two persons are required to lift operator seat / operator seat shroud from the seat channel.

7. Remove the two hex nuts and two washers securing the back of the operator seat to the seat shroud. Set the hex nuts and washers aside. (Fig. 24 / Fig. 27)



FIG. 24

- Loosen the two hex nuts securing the front of the operator seat to the seat shroud. (Fig. 25 / Fig. 27)



FIG. 25

- Separate the back of the operator seat from the operator seat shroud and install the seat stop onto the operator seat. (Fig. 26)



FIG. 26

- Reinstall the operator seat shroud onto the operator seat and use the two hex nuts and two washers to secure the seat stop between the seat and the shroud. (Fig. 27)
- Place the operator seat assembly onto the seat channel and use the M8 hex screws to secure the operator seat to the seat channel. (Fig. 27)
- Reconnect the gas spring to the machine. (Fig. 27)
- Reconnect the main wire harness to the operator seat switch.
- Reconnect the battery cable to the machine.
- Start and test the machine to ensure it operates. Ensure the seat switch is functioning properly.

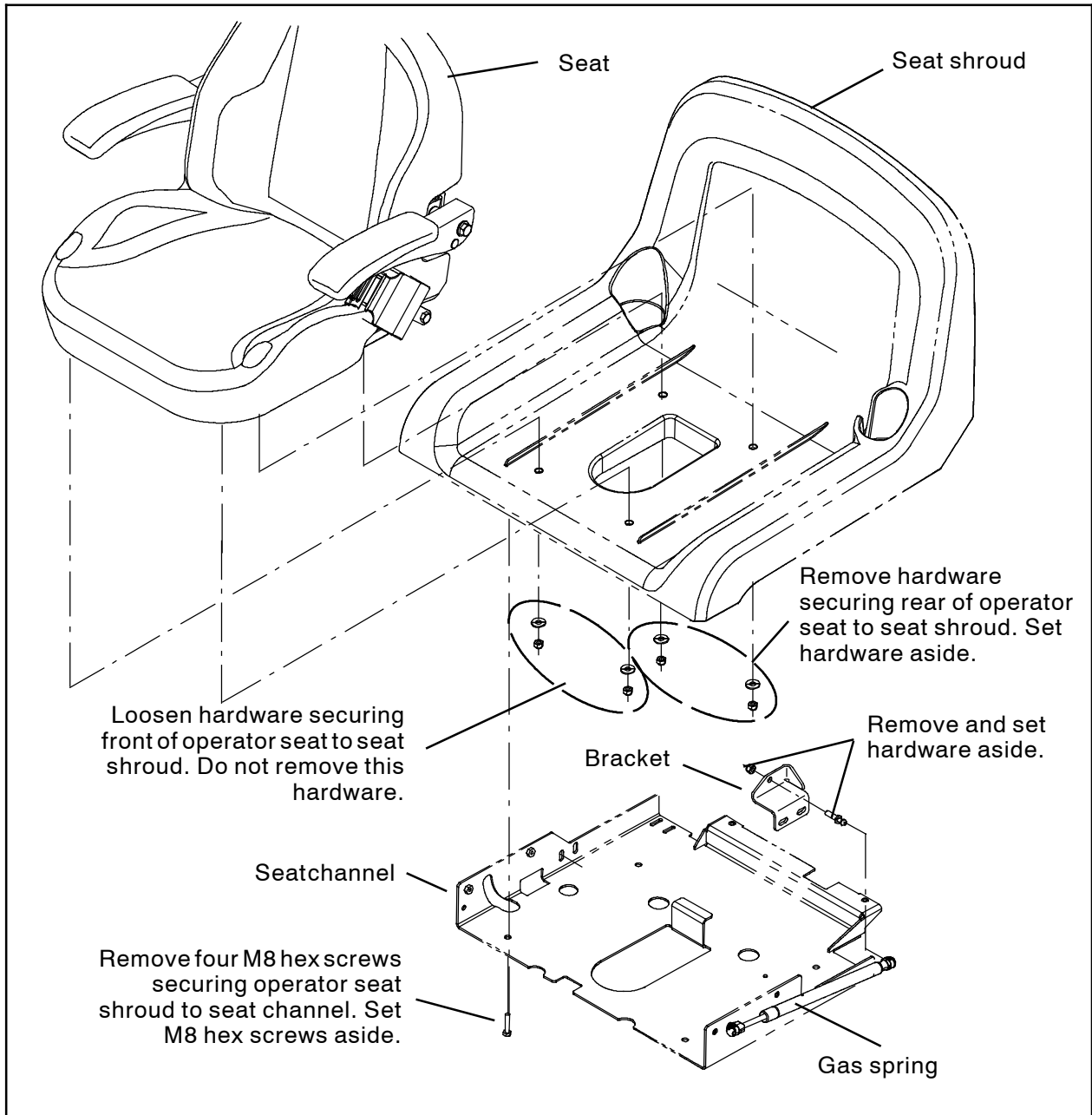


FIG. 27

INSTALLATION - SIDE BRUSH STEP SPACER:

1. Remove the backing from the adhesive strip installed on the side brush step spacer (11). (Fig. 28)



FIG. 28

2. Pry the side brush cover up from the side brush deck plate and slide the side brush step spacer (11), adhesive side down to the side brush deck plate, between the side brush cover and side brush deck plate. (Fig. 29)



FIG. 29

INSTALLATION - TIGHTEN HARDWARE:

1. Torque the M8 hex screw securing ground wire to machine. (Fig. 30)

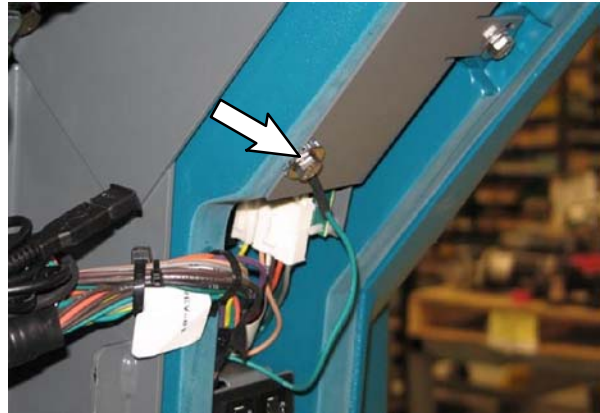


FIG. 30

2. Torque all M8 hex screws and nuts securing flange bearings and other steering components to 16 ft lbs - 21 Nm. (Fig. 31 / Fig. 32)
3. Torque all M8 hex screws securing the arm pivot weldment and scrub head links to the scrub head / frame of machine to 16 ft lbs - 21 Nm. (Fig. 33)

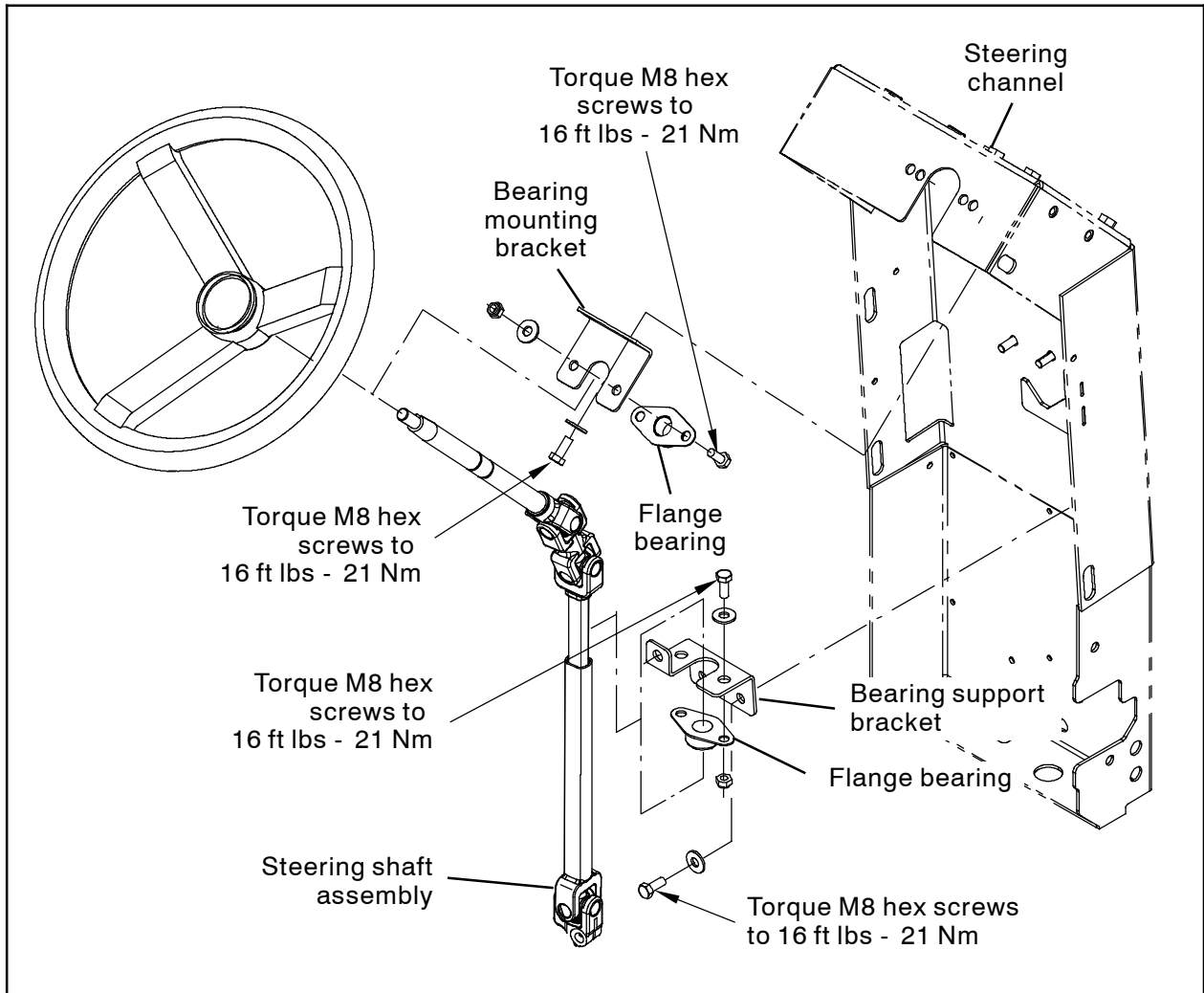


FIG. 31 - T12 Machines Only

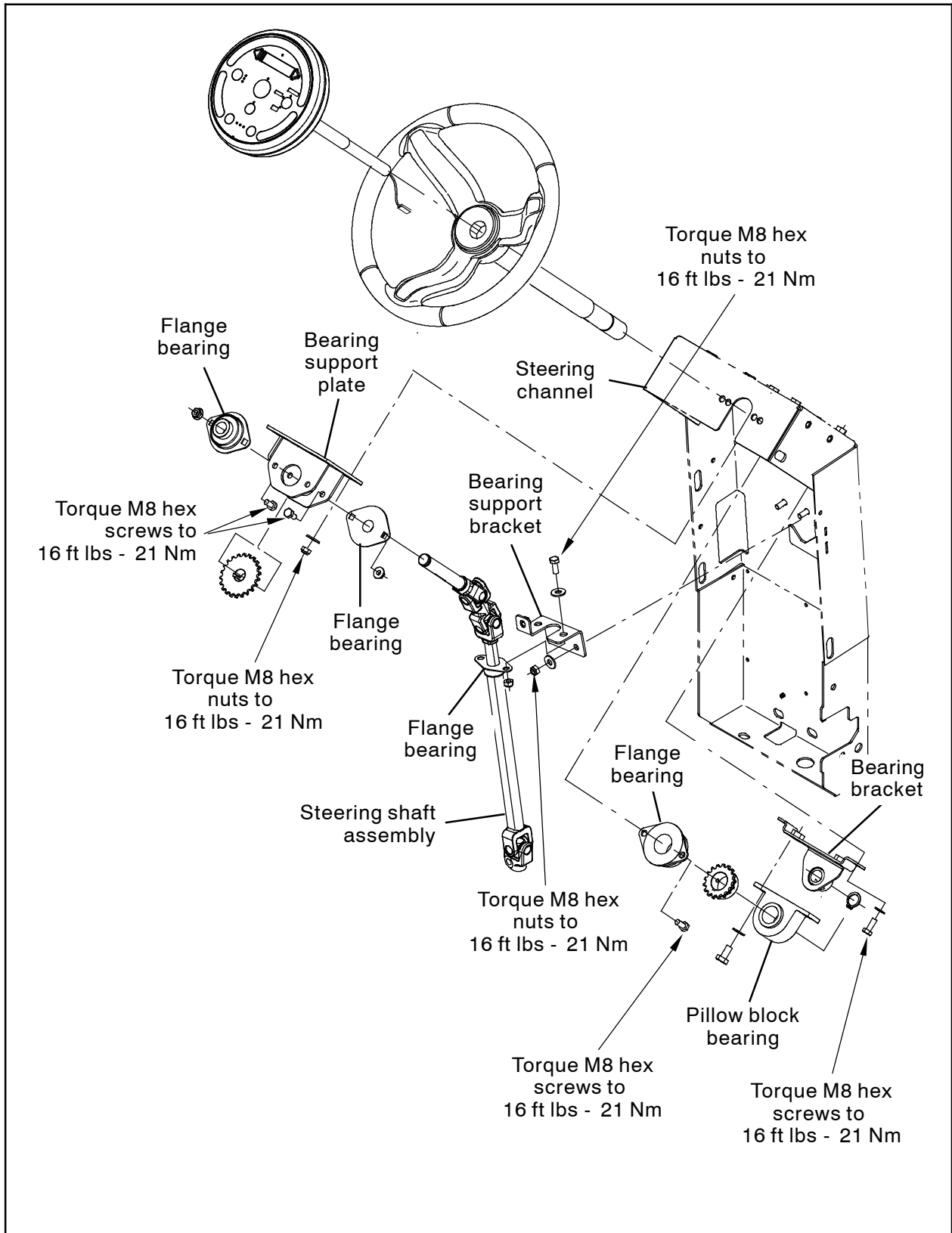


FIG. 32 - T12XP Machines Only

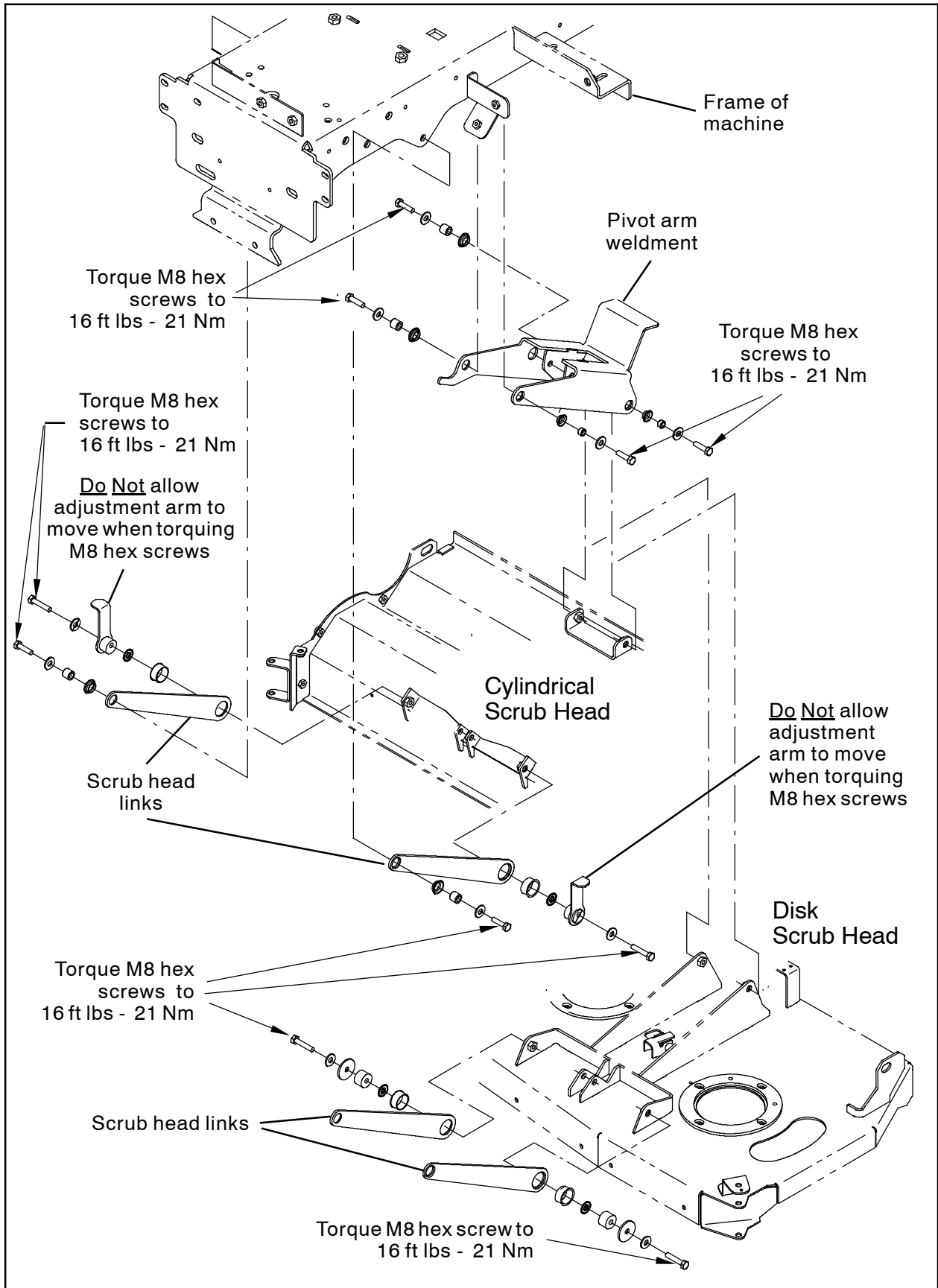


FIG. 33

Bill Of Materials For CS, Instr, Steering Support Kit - 322363

	Ref.	Tennant Part No.	Description	Qty.
▽		322363	CS, Instr, Steering Support Kit	1
▲	1	315249	CS, Plate, Reinforcement	1
▲	2	39277	Screw, Hex, M8 X 1.25 X 25, 8.8	3
▲	3	32491	Washer, Flat, 0.31, Std	3
▲	4	763045	Screw, Hex, M8 X 1.25 X 20, FMG	3
▲	5	12459	Screw, Hex, M6 X 1.00 X 20, FMG	4
▲	6	315248	CS, Bracket, Shroud	1
▲	7	315245	CS, Bit, Drill, 7/32 in	1
▲	8	315246	CS, Bit, Drill, 19/64 in	1
▲	9	315247	CS, Bit, Drill, 11/32 in	1
▲	10	130773	Tie, Cable, Nyl, 11.0L, 0.14W, 3.0 Max. D	4
▲	11	315251	CS, Spacer, Step	1
▲	12	315252	CS, Stop, Adjuster, Seat	1

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