

# EPS LH DRIVE KIT



**P/N 2882508**

## APPLICATION

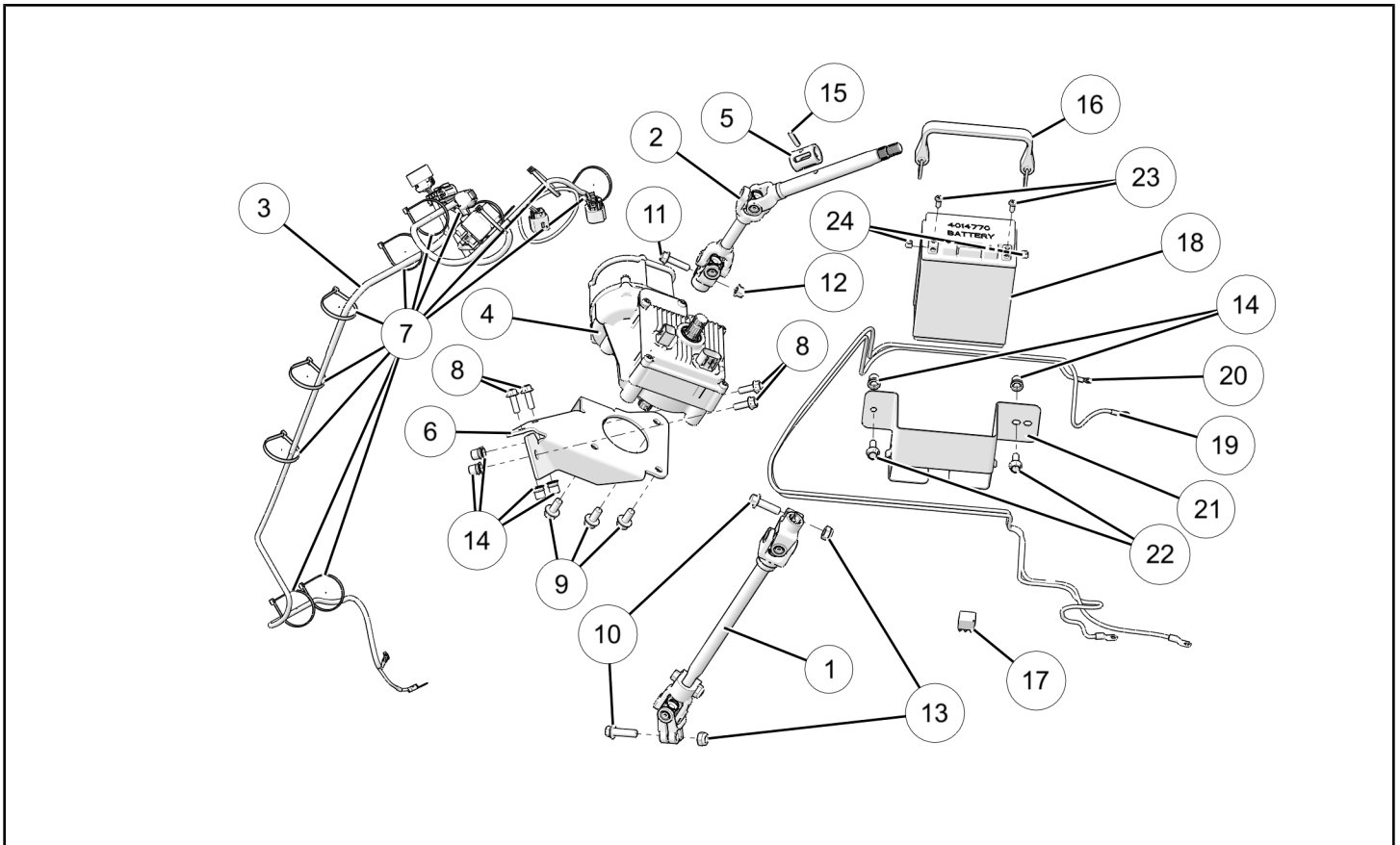
E2, E4, E6, and eL XD

## BEFORE YOU BEGIN

Read these instructions and check to be sure all parts and tools are accounted for. Please retain these installation instructions for future reference and parts ordering information.

## KIT CONTENTS

This Kit includes:



REF	QTY	PART DESCRIPTION	PART NUMBER
1	1	Steering Shaft, Lower	1824483
2	1	Steering Shaft, Upper	1824589
3	1	Harness, EPS	2413353
4	1	Assembly, Power Steering	2413377
5	1	Collar-Lock	5140926
6	1	Bracket, Steering	5261021
7	12	Cable Tie, 11"	7080492
8	4	Screw, Hex Flange - M8 X 1.25 X 25	7518514

REF	QTY	PART DESCRIPTION	PART NUMBER
9	3	Screw, Hex Flange - M10 X 1.25 X 20	7518558
10	2	Screw, Hex Flange - M10 X 1.50 X 35	7518644
11	1	Screw, Hex Flange - M8 X 1.25 X 35	7519052
12	1	Nut, Flange - M8 X 1.25	7547332
13	2	Nut, Hex - M10 X 1.5	7547385
14	6	Nut Inserts - M8 X 1.25	7547788
15	1	Pin, Spring, M6 X 26	7662315
16	1	Battery Strap Assembly	2635371
17	1	Sealed Relay - SPDT, Series 301	4011284
18	1	Battery - 12V	4014770
19	1	EPS Cable, Positive, Fused	4016543
20	1	EPS Cable, Negative	4016544
21	1	Battery Hold Bracket	5261942
22	2	Screw - M8 X 1.25 X 25	7518514
23	2	Screw, - M6 X 1 X 12	7520056
24	2	Nut, - M6 X 1	7547732
	1	Instructions	9926979

## TOOLS REQUIRED

- Side Cutter
- Screw Driver, Phillips
- Screw Driver, Flat Head
- Socket Set, Metric
- Socket Set, Hex, Metric
- Socket Set, SAE
- Wrench Set, Metric
- Screwdriver Set, Torx®
- Hammer or Air Hammer
- Extension
- Steel Punch
- Nut Insert Tool
- Fir Tree (Panel) Clip Tool

## IMPORTANT

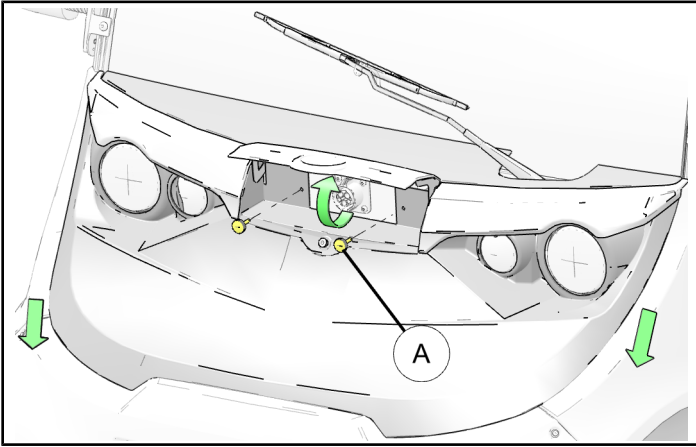
Your EPS LH Drive Kit is exclusively designed for your vehicle. Please read the installation instructions thoroughly before beginning. Installation is easier if the vehicle is clean and free of debris. For your safety, and to ensure a satisfactory installation, perform all installation steps correctly in the sequence shown.

## ASSEMBLY TIME

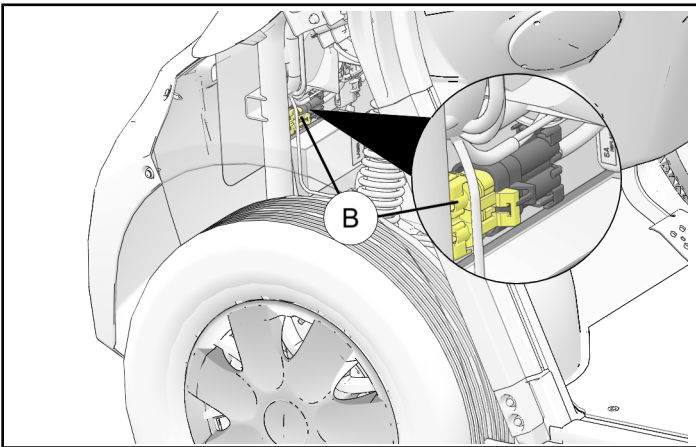
Approximately 120 minutes

## INSTALLATION INSTRUCTIONS

1. Place gear sector in "N". Apply parking brake. Turn key to "OFF" position and remove from vehicle
2. Flip open charge port door and remove two thumb screws (A). Pull hood in direction of arrow (parallel to ground) and remove from vehicle.

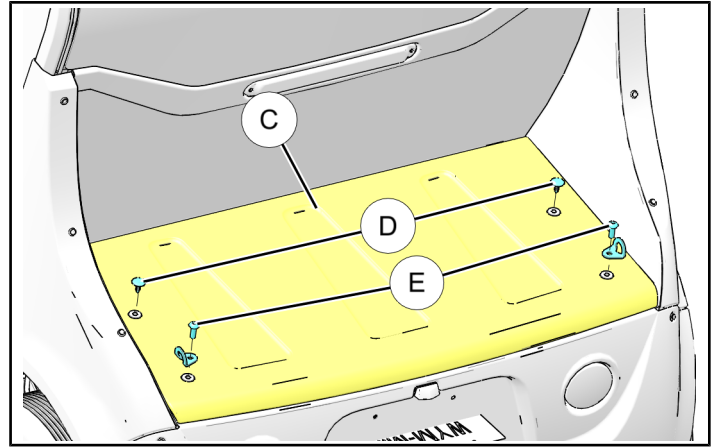


3. Disconnect front vehicle main connector (B).

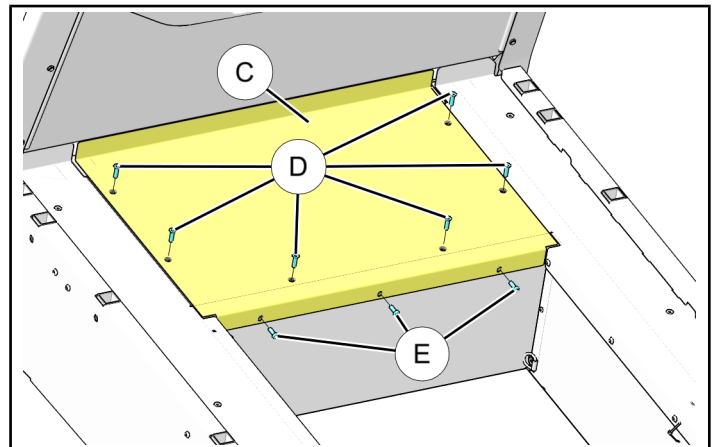


4. Battery access cover removal.

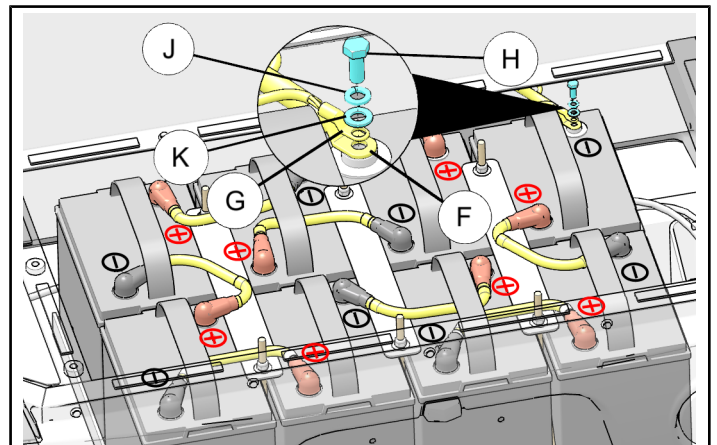
**For E2, E4, and E6:** Remove two fir tree clips (D) and two tie downs (E). Lift rear battery access cover (C).



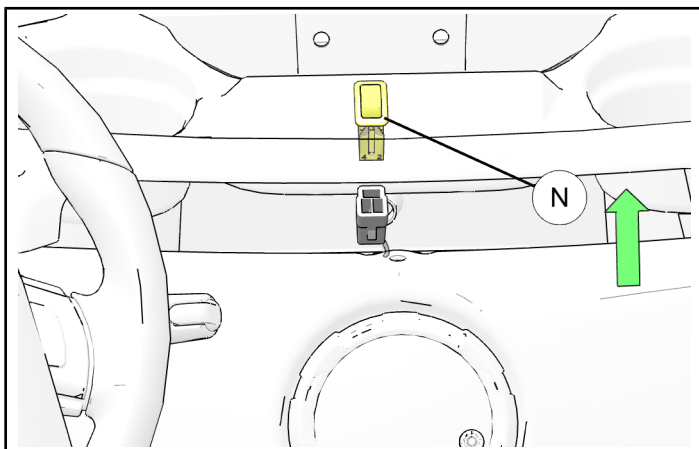
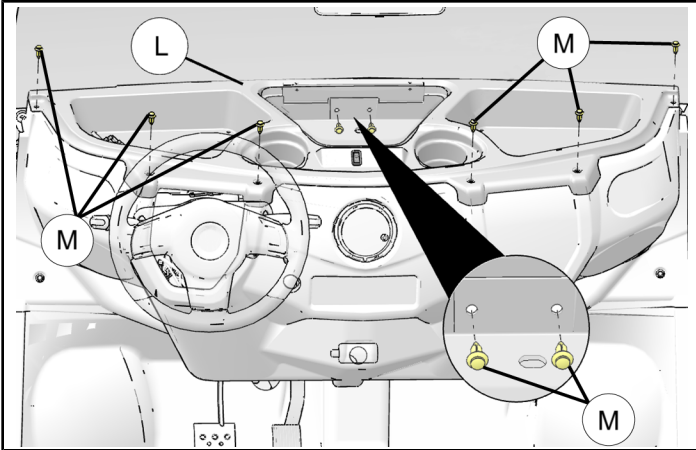
**For eL XD:** Remove six hex head screws (D) and three screws (E) to remove rear battery access cover (C).



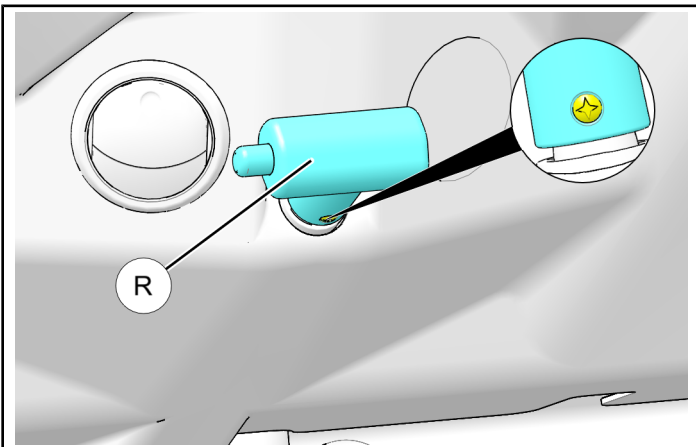
5. Disconnect battery pack in rear of vehicle. Disconnect farthest-forward, right-most negative terminal of your battery pack (F) and temperature sensor (G) by removing screw (H) and washers (J) and (K).



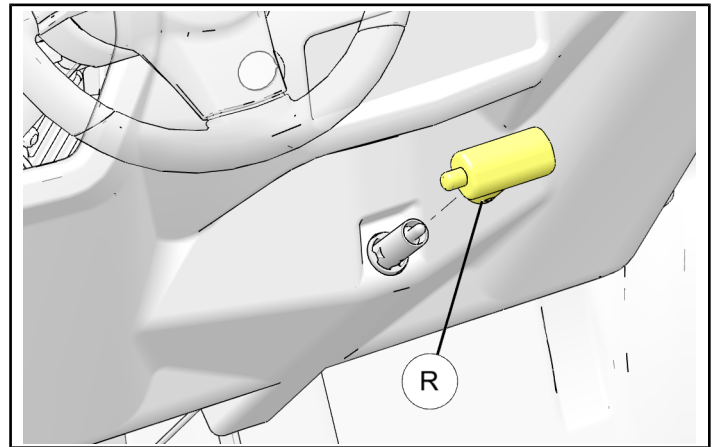
6. Remove eight push-pin rivets (M) from upper dash panel (L). Slowly lift upper dash panel and disconnect switch (N).



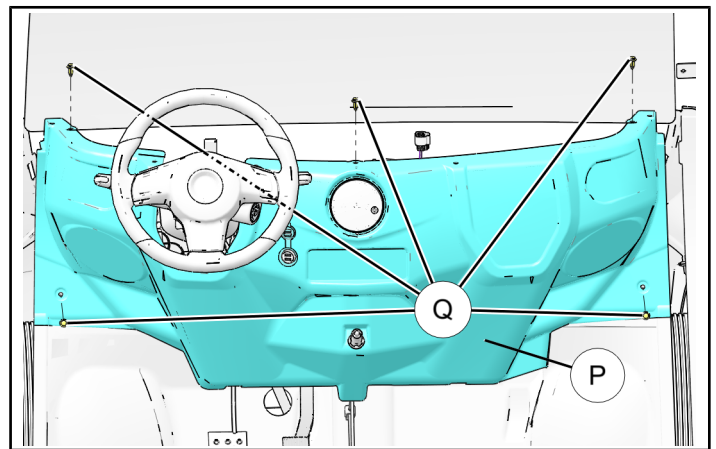
7. Remove screw from parking brake handle (R).



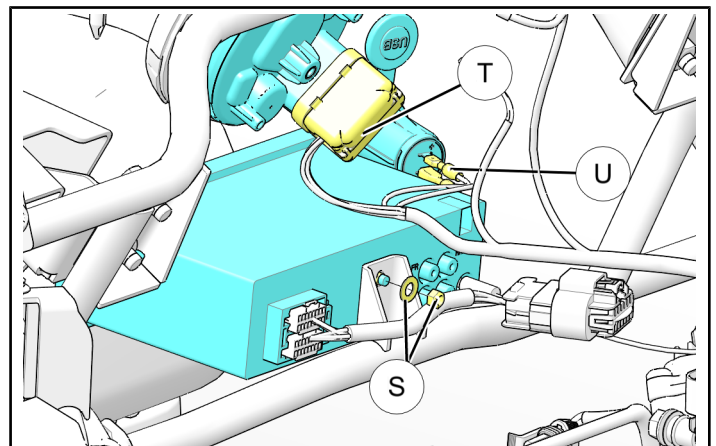
8. Pull on handle to remove.



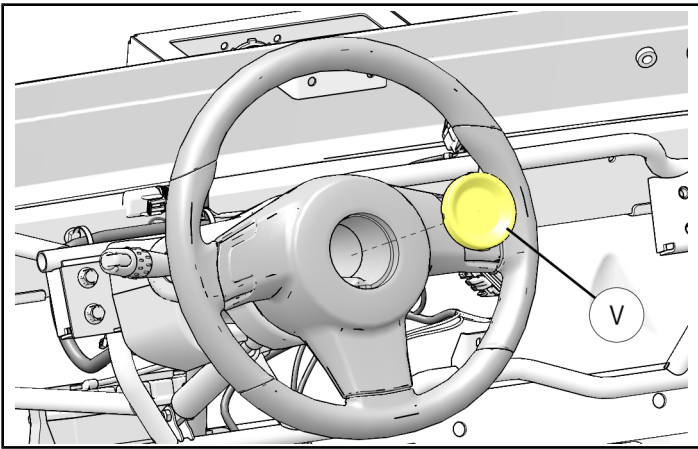
9. Remove five push-pin rivets (Q) from lower dash panel (P).



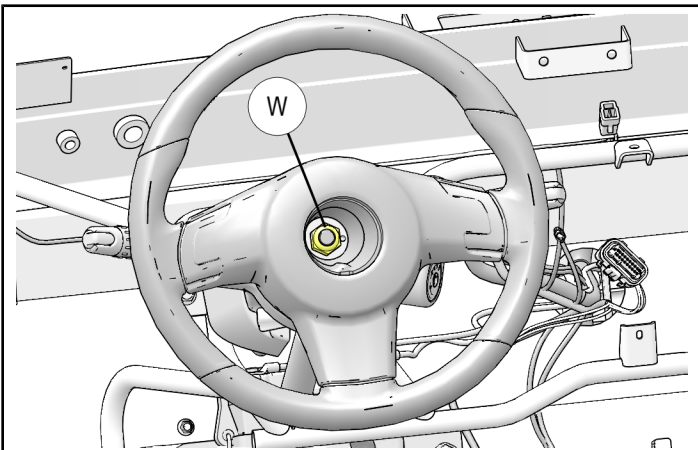
10. Dismantle radio (if equipped) by removing nut and washer (S) and disconnect CPI gauge connector (T) along with USB port connectors (U) and remove lower dash.



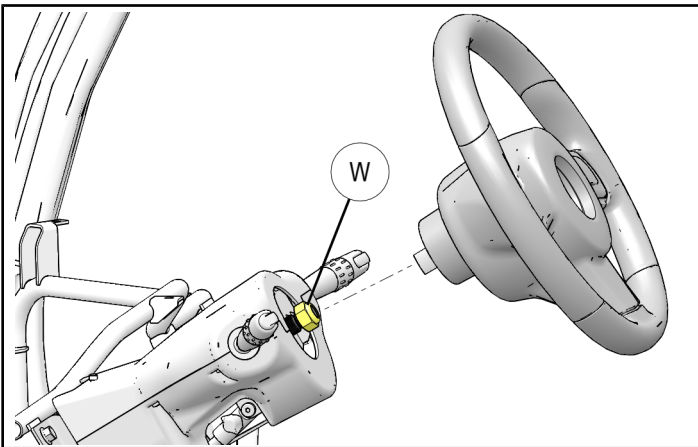
11. Carefully remove steering wheel nut cover (V).



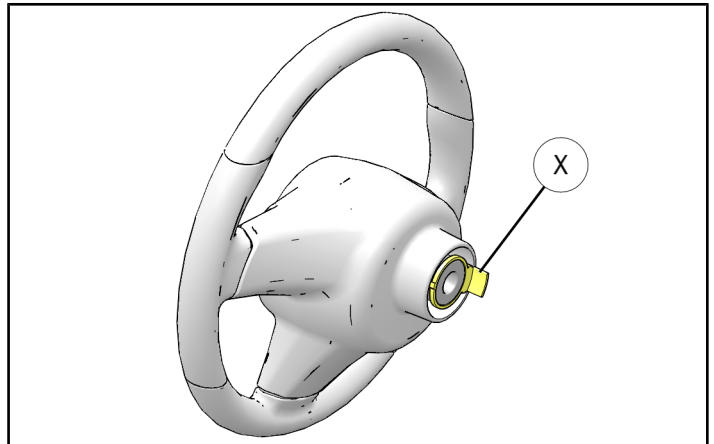
12. Loosen steering wheel nut (W) leaving 2-3 threads engaged to steering shaft for next step. Make sure key is out of ignition as it will help to use steering lock to loosen steering nut.



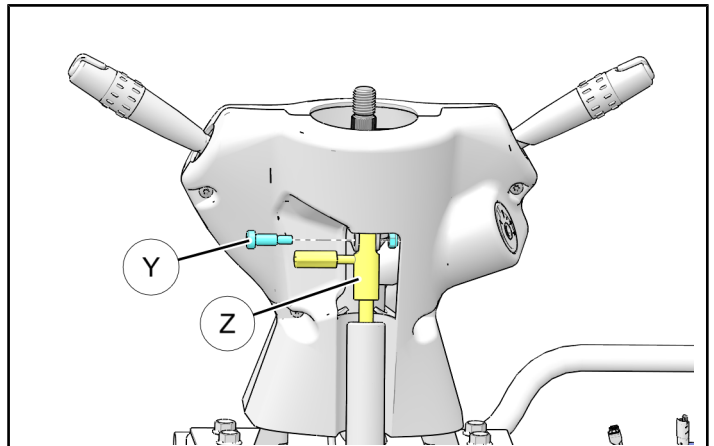
13. Center punch on steering shaft and make sure steering wheel nut (W) is still on to prevent damage to steering shaft threads. Strike punch until you feel steering wheel pop off of steering shaft taper (usually this takes a large amount of force).



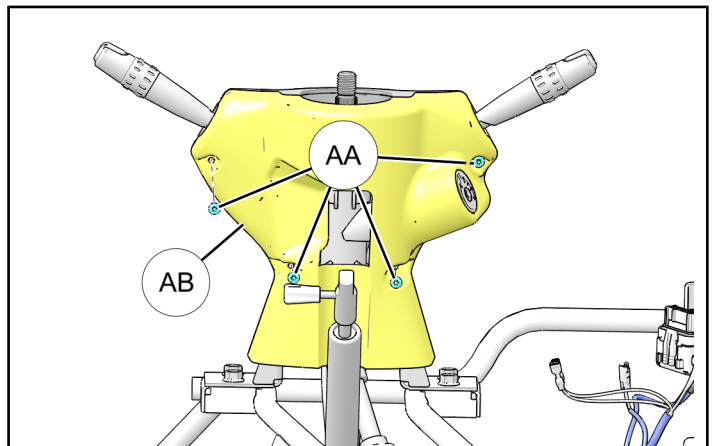
14. Remove steering wheel nut and steering wheel and set aside. Be careful to not break self-cancelling turn signal tab (X) on back of steering wheel.



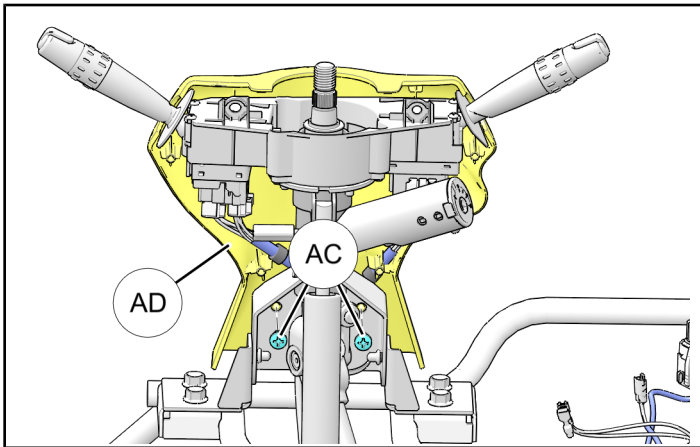
15. Remove bolt (Y) and lower attachment of steering shock/brace (Z).



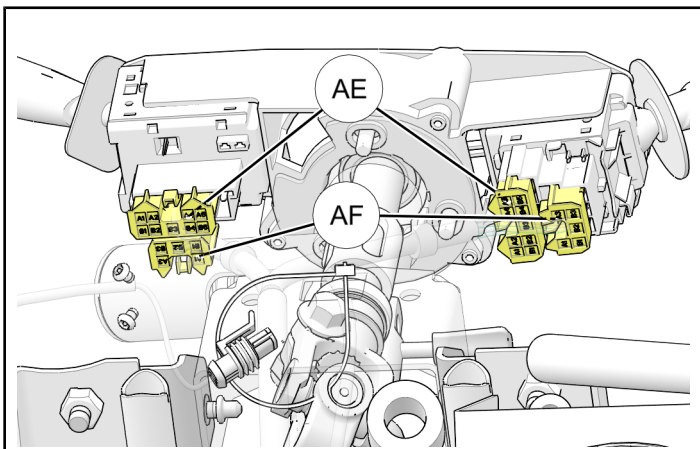
16. Remove four screws (AA), lower steering column cover (AB).



17. Remove two screws (AC). Remove upper steering column cover (AD).



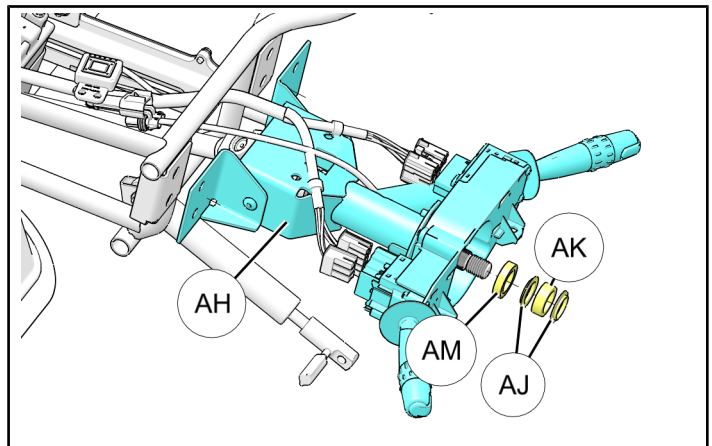
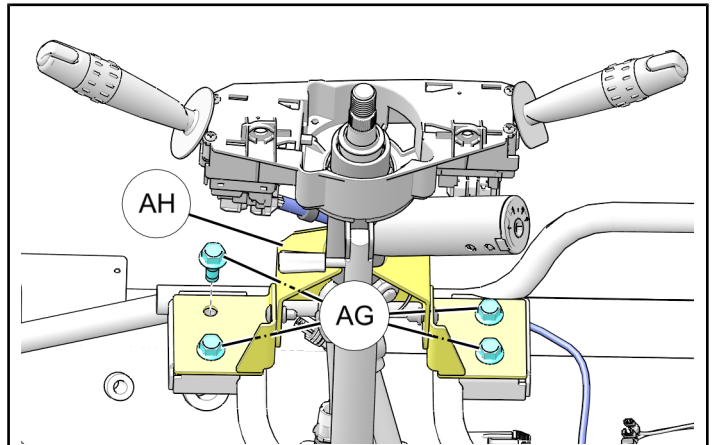
18. Unplug connectors (AE) and (AF) on rear of stalk assembly.



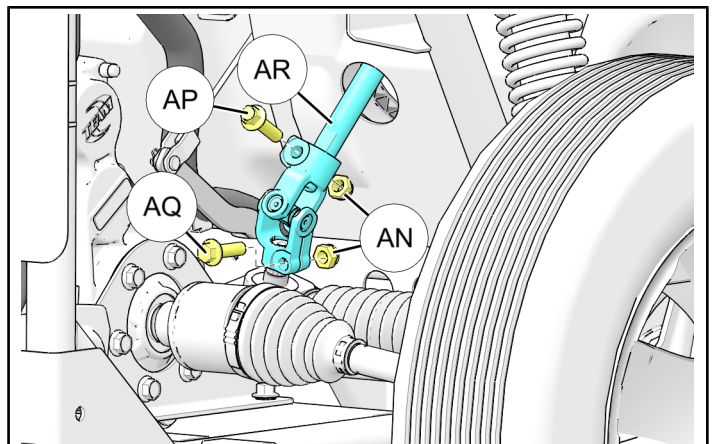
19. Install key in ignition and turn to "ON" position to disengage steering lock. Remove four bolts (AG). Remove the steering column weldment (AH) from the front steel dash frame.

### IMPORTANT

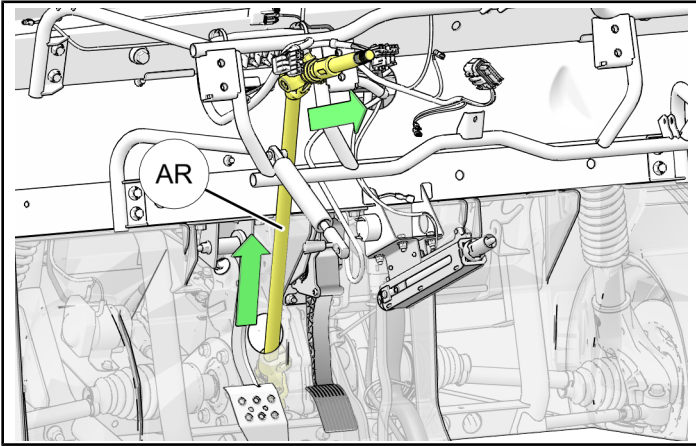
Steering shaft washers (AJ), bushing (AK), and bearing (AM) will all come out with weldment (AH). Retain parts for reassembly.



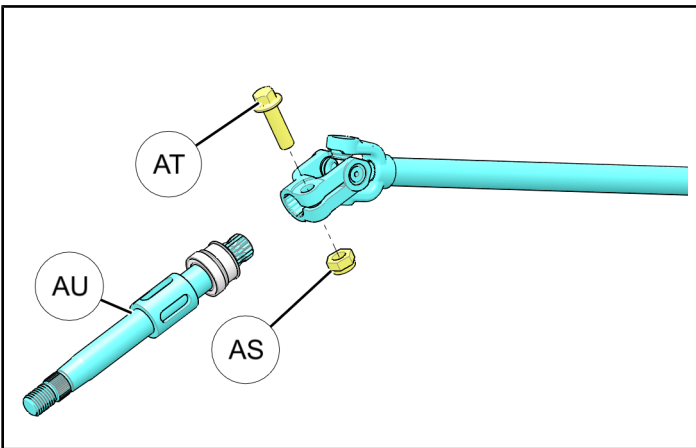
20. Remove lower steering shaft nuts (AN) and bolts (AP) and (AQ).



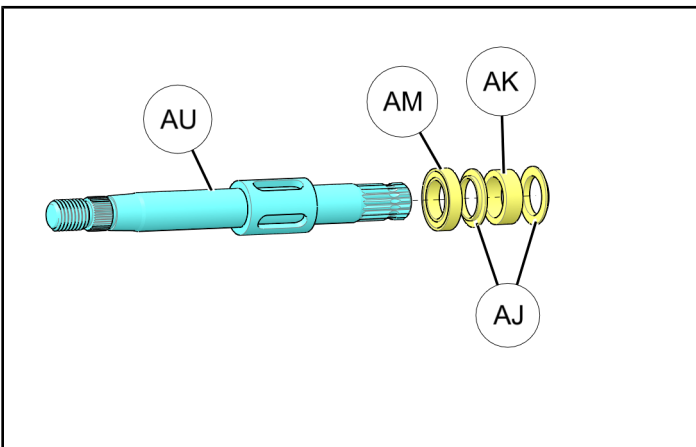
21. Remove fixed steering shaft (AR) by pulling it through splash guard towards driver's seat as shown.



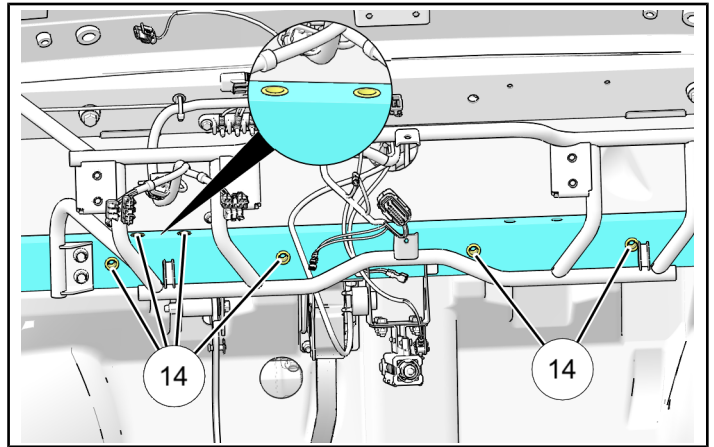
22. Remove nut (AS) and bolt (AT) from upper steering shaft joint. Slide upper shaft (AU) from joint.



23. Slide steering shaft washers (AJ), bushing (AK), and bearing (AM) from upper steering shaft (AU). Retain parts for reassembly.



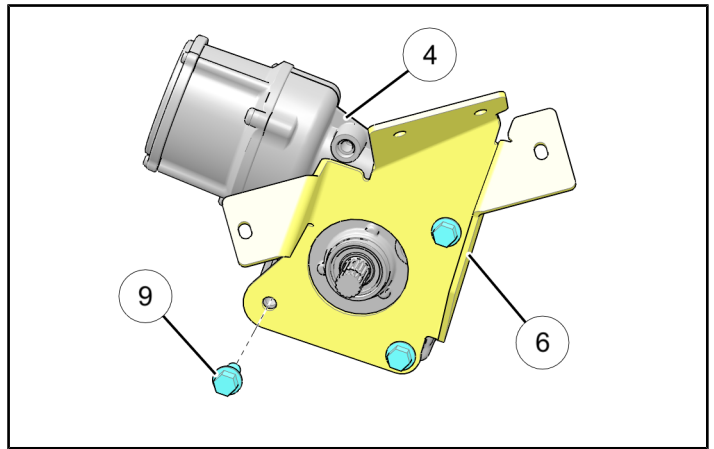
24. Install six nut inserts (14) into precut holes in frame tube.



25. Outside of vehicle, install EPS mounting plate (6) to EPS (4) using three bolts (9). Torque to specification.

### TORQUE

30 ft. lbs. (40 Nm)



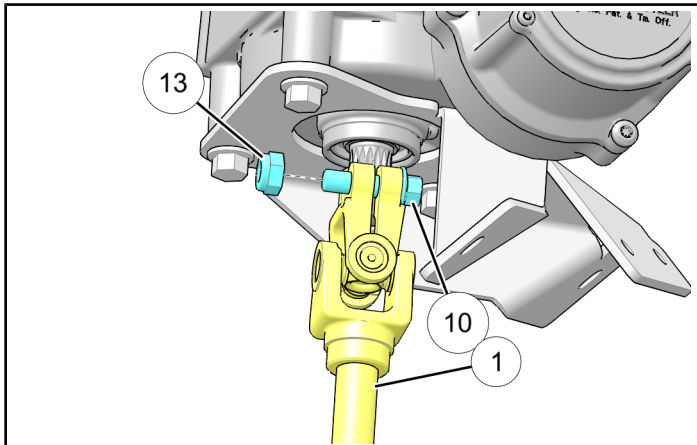
26. Install lower EPS steering shaft ① to EPS with screw ⑩ and nut ⑬ outside of vehicle. Make sure to align slit on knuckle with skip tooth on steering rack. Torque to specification.

**TORQUE**

47 ft. lbs. (64 Nm)

**NOTE**

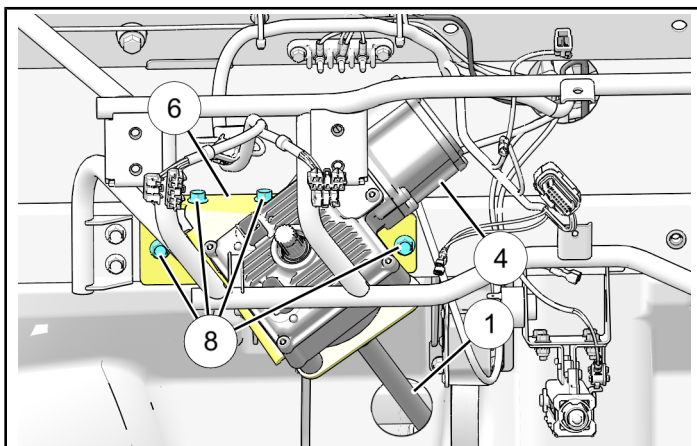
Failing to properly align steering can result in improper phasing causing steering to feel uneven.



27. Install EPS ④ with bracket ⑥ and shaft ① into vehicle and tighten using four bolts ⑧. Slip steering shaft onto rack during install. Torque to specification.

**TORQUE**

18 ft. lbs. (24 Nm)



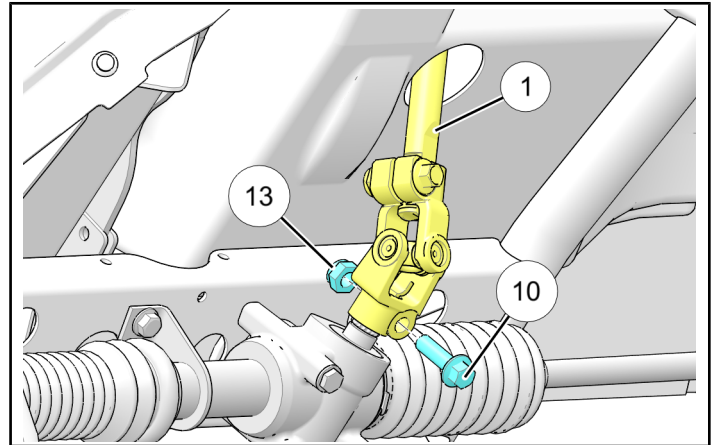
28. Tighten lower steering shaft bolt ⑩ and nut ⑬. Torque to specification.

**TORQUE**

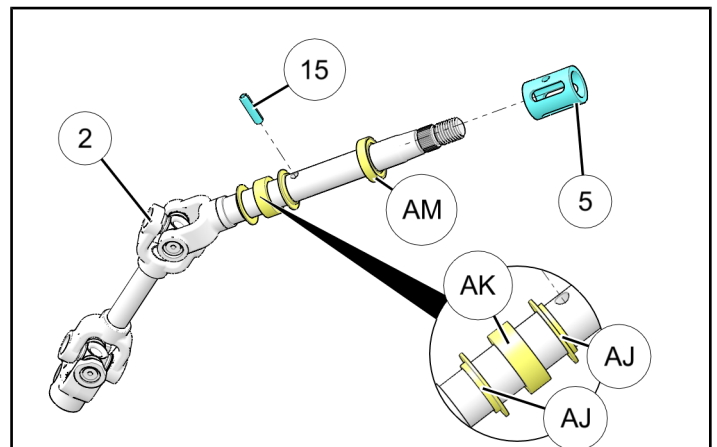
47 ft. lbs. (64 Nm)

**NOTE**

Ensure steering rack pinion sits slightly recessed from U-joint.

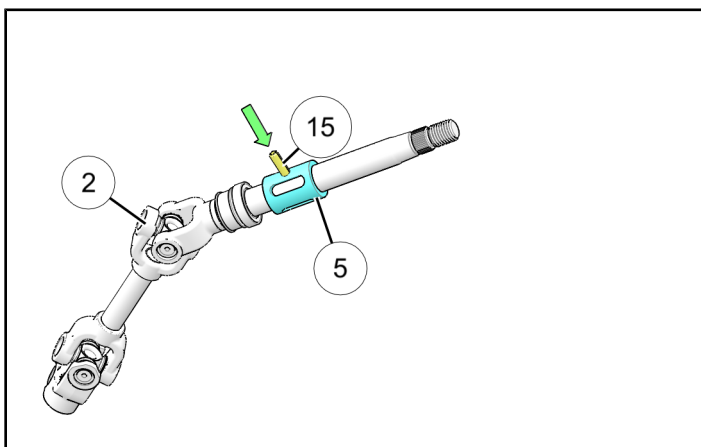


29. Install bushings ①ⓐ and ①ⓑ (ensuring correct allocation of steel bushings) and bearing ①ⓓ on upper steering shaft ② as shown below.





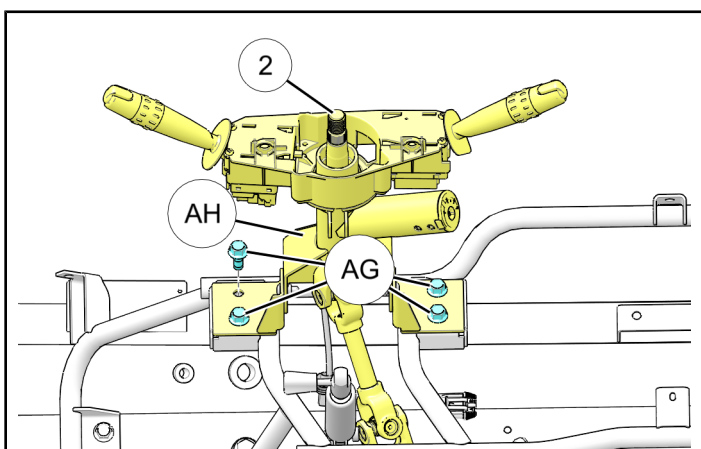
30. Slide lock collar ⑤ onto upper shaft ②, align hole and install spring pin ⑮.



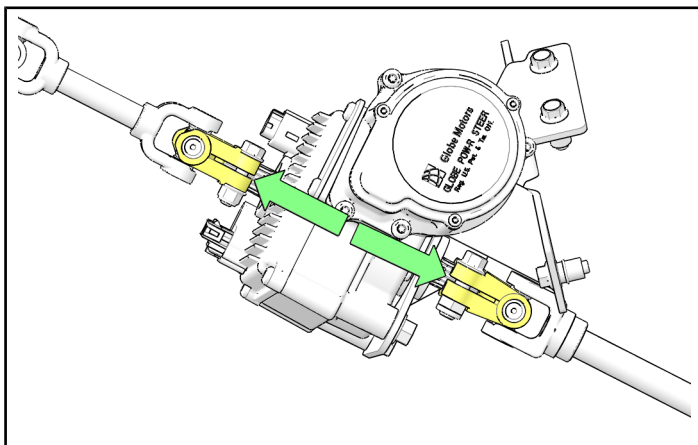
31. Install steering column shaft ② into steering column weldment ①ᐱ and install assembly back to steel dash frame using four bolts ①ᐱ. While installing, slip steering shaft onto EPS and ensure skip tooth is aligned with slit on U-joint. U-joint slits should align when installed. Torque four bolts ①ᐱ to specification.

### TORQUE

18 ft. lbs. (24 Nm)



32. Loosely install bolt ①ᐱ and nut ①ᐲ into upper shaft joint but **DO NOT TIGHTEN**



33. Reinstall upper steering column cover ①ᐲ, removed in Step 17.

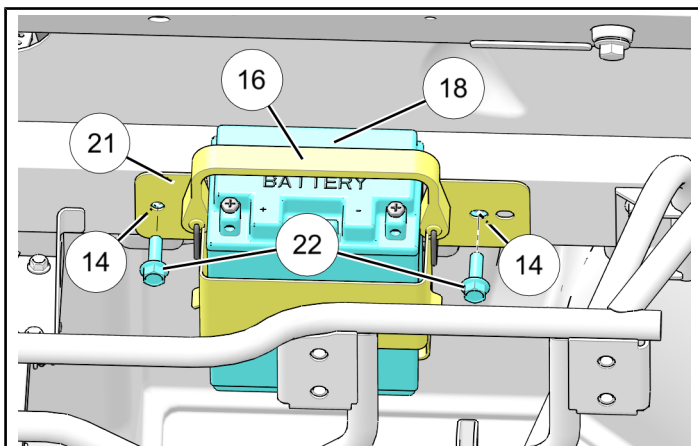
34. Reinstall lower steering column cover ①ᐳ, removed in Step 16.

35. Reinstall steering shock/brace ⑦, removed in Step 15.

36. Install 12V battery ①ᐸ with bracket ②ᐱ and strap ①ᐶ into nut inserts ①ᐴ (installed in step 24) in RH side of lower dash extrusion support of vehicle using two bolts ②ᐲ. Torque bolts to specification.

### TORQUE

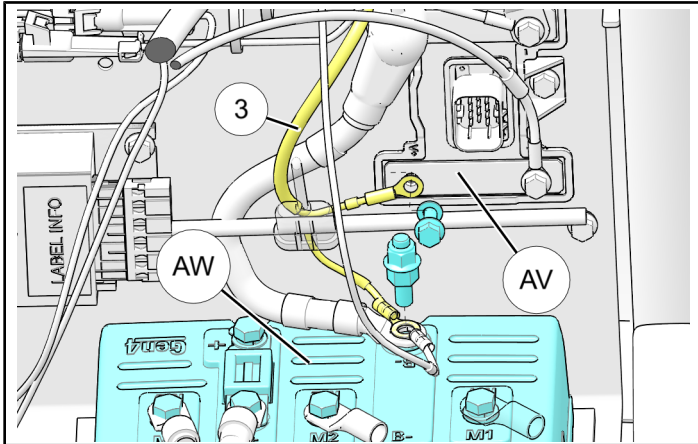
18 ft. lbs. (24 Nm)



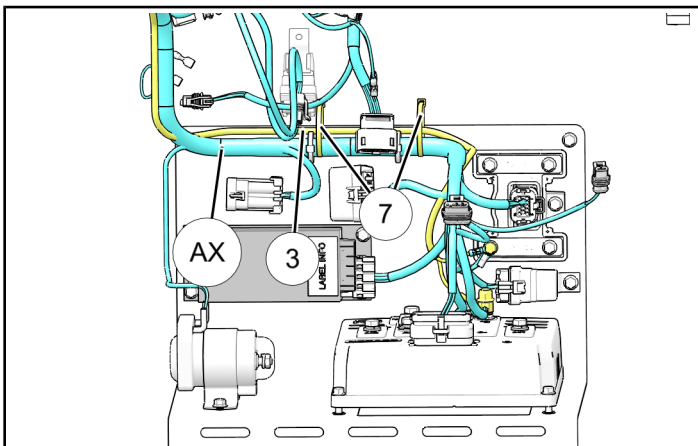
37. Install EPS harness ③ starting at front of vehicle. Start with installing harness connector labelled “BMC +” to BMC ④ and motor controller ⑤ as shown below.

**NOTE**

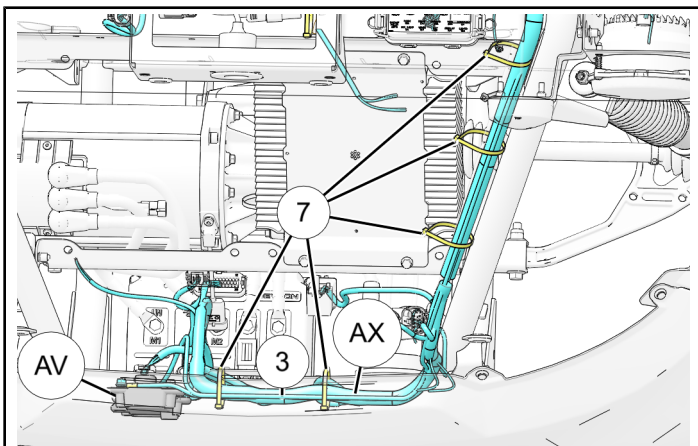
A second wrench may be needed to counter-hold the second nut on the stud on the motor controller ⑤.



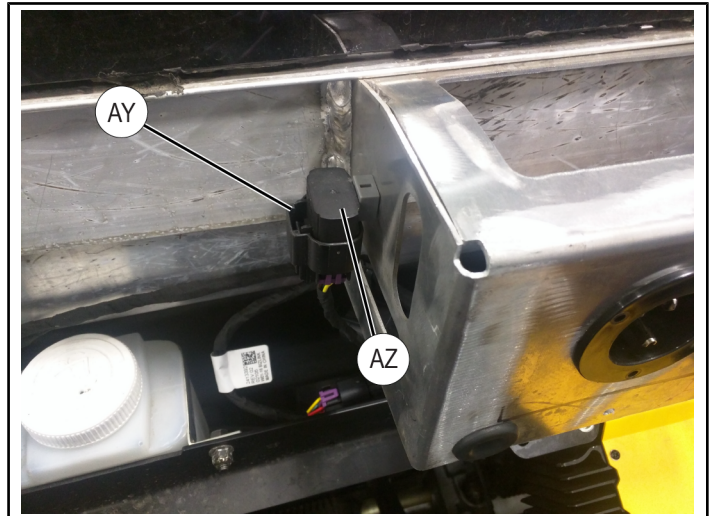
38. Cable tie ⑦ EPS harness ③ to main front harness ④.



39. Continue to route harness ③ following front harness ④ and through plastic splash guard.



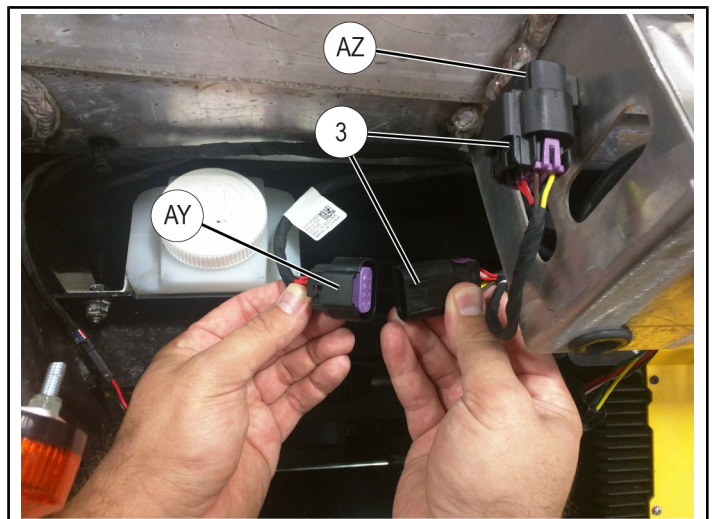
40. Disconnect EPS harness connector ④ from blank plug ⑥.



41. Plug in two connectors of EPS harness ③ to diagnostic port in front harness ④ and into blank plug ⑥.

**TIP**

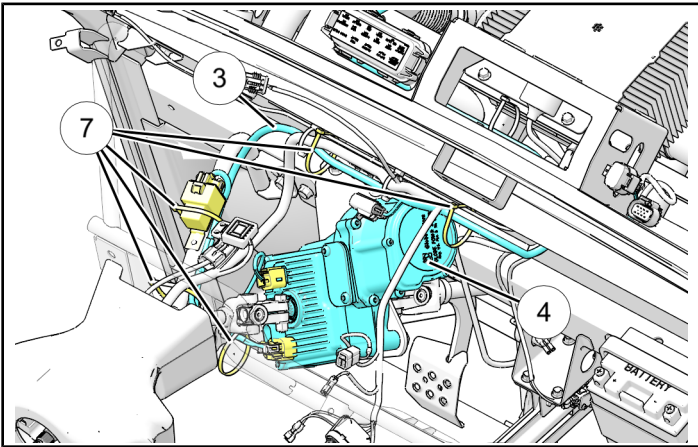
If you have lithium ion kit installed, lithium ion harness must be installed to front harness first then followed by EPS harness.



42. Plug EPS harness ③ into EPS ④. Cable tie ⑦ and harness.

**NOTE**

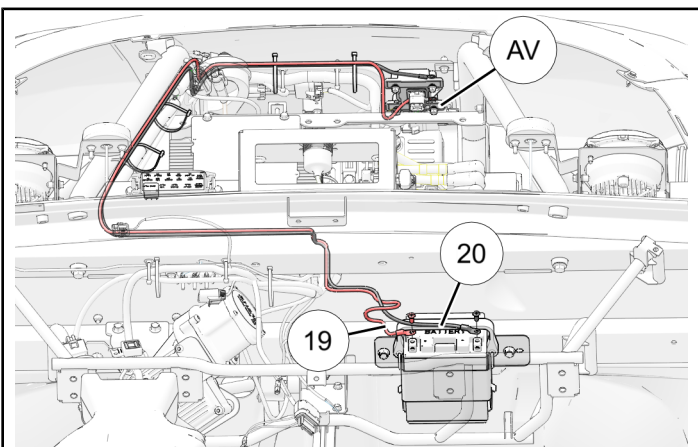
Ensure harness will not interfere with steering shaft.



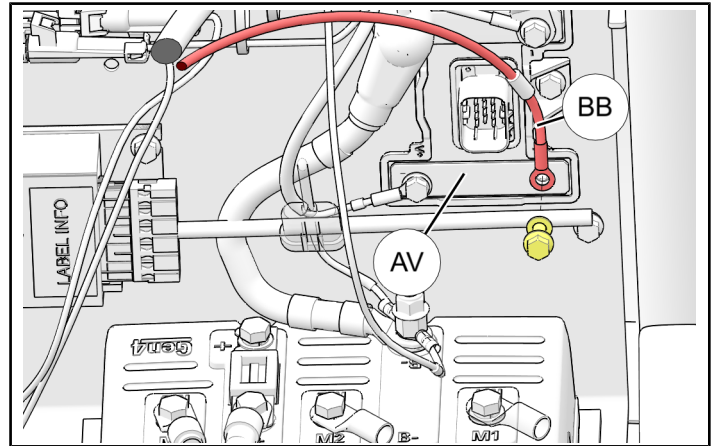
43. Disconnect +12V battery cable ①A from rear battery pack and tie it off with a cable tie (this will not be connected anymore with this option).



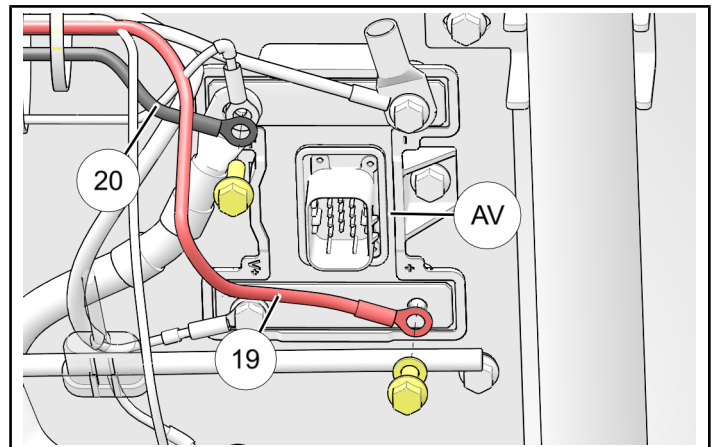
44. Route EPS battery harness ①9 and ②0 from EPS battery ①8 to BMC .



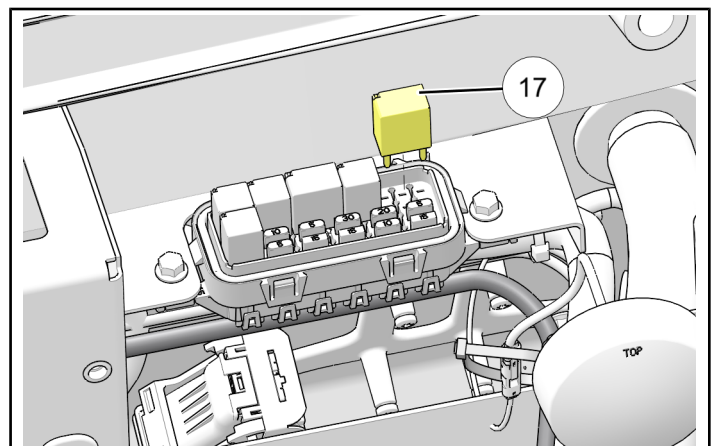
45. Remove main harness +12V cable ①B from BMC ①A. Cable tie back to main harness (this will not be connected anymore with this option).



46. Connect Positive EPS Cable ①9 to BMC ①A positive post as shown. Connect Negative EPS Cable ②0 to BMC ①A negative post as shown.



47. Install relay ①7 to fuse box as shown.



48. Reinstall bushings and bearing onto upper steering shaft that were removed in step 19.

49. Reinstall steering wheel with steering nut (W). Make sure steering is straight and vehicle will drive straight with a correctly aligned steering wheel.

### NOTE

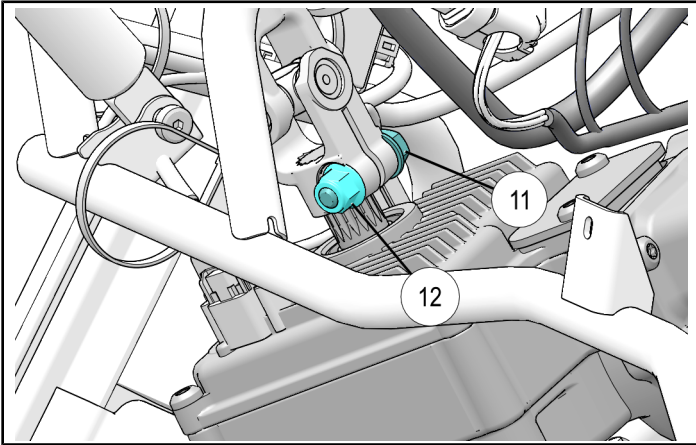
Ensure self-cancelling turn signal tab is installed.

50. Once steering is properly aligned and torqued reinstall steering wheel nut cover (V).

51. Tighten upper shaft slip joint screw (11) and nut (12) now that EPS steering has been properly installed. Torque to specification.

### TORQUE

18 ft. lbs. (24 Nm)



52. Reinstall lower dash (P) to vehicle with push darts (Q), removed in Step 9.

53. Reinstall parking brake handle (R), removed in Steps 7 and 8.

54. Reconnect the CPI gauge (T) and USB port (U) and secure back of radio (if equipped) to steel dash frame using nut and washer (S), removed in Step 10.

55. Reinstall upper dash (L). Make sure to connect all of switches (N), removed in Step 6.

56. Reconnect main vehicle connector (B) and battery pack most negative terminal (F) and temperature sensor (G), removed in Steps 3 and 5.

57. Reinstall battery cover panel (C) and hood with thumb screws (A), removed in Steps 2 and 4.