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EX-RAY Installation for E-Z-Go-RXV



Purpose: EX-RAY install onto EZGO-RXV with “short hub”.

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The E-Z-Go (hereafter EZ) spindles and steering column are different than other EZ models. Although they use the same short wheel hub, some aftermarket hubs are wider. The steering column tube diameter is also different from the older 1.51” to the new 1.59” diameter requiring a different CNC machined bracket.

Two EX-RAY Model kits are created specifically for the EZ-RXV that includes the proper axle sensor mounting bracket, and steering column display mounting bracket. This installation procedure supplements the EX-RAY-VOLT operators manual as the SPEED SENSOR mounting and POWER connection instructions only.

CAUTION:

The axle requires a casting web to be smoothed out using a hand held grinder, which will require removing the wheel hub assembly.

Use caution when supporting the vehicle on jack stands and wear eye protection at all times.

After grinding the “axle web” as shown in the following pages, ensure to properly clean the axle stub to prevent shavings from damaging the bearing assemblies.

Installation Summary:

This procedure is a supplement to the operators manual.

- 1 – Jack and remove wheel
- 2 –Speed Sensor bracket preparation (which may require grinding a small casting web)
- 3 – Mount speed sensor to axle
- 4 – Mount the 6MM rare Neodymium magnet
- 5 – Route the speed sensor cable
- 6 – Connect power
- 7 – See EX-RAY operators manual for further setup.

Step ONE:

- Jack the vehicle and place onto jack stands.
- Remove Wheel



Special Thanks to Jim in Sun City AZ for all the time and effort helping create this engineered kit for RXV carts!

Step TWO:

If your axle DOES NOT have a web impeding the sensor clamp, proceed to Step Three.

There may also be a way to remove the small web between the steering arm and axle shaft using a die grinder. The objective is to mount the sensor clamp and bracket as close to the steering arm as possible and not rub on the bearing seal.

- Remove Wheel hub and bearings.
- Cover & wrap the axle shaft to prevent metal shavings from sticking to the grease.
- Use a die grinding or disc grinder to smooth out the small web from the axle shaft as shown.



Photo Courtesy of
Jim in Sun City AZ
on his RXV cart install

OPTIONAL: Create a small flat or smooth Out any ribs for the bracket to sit flat.

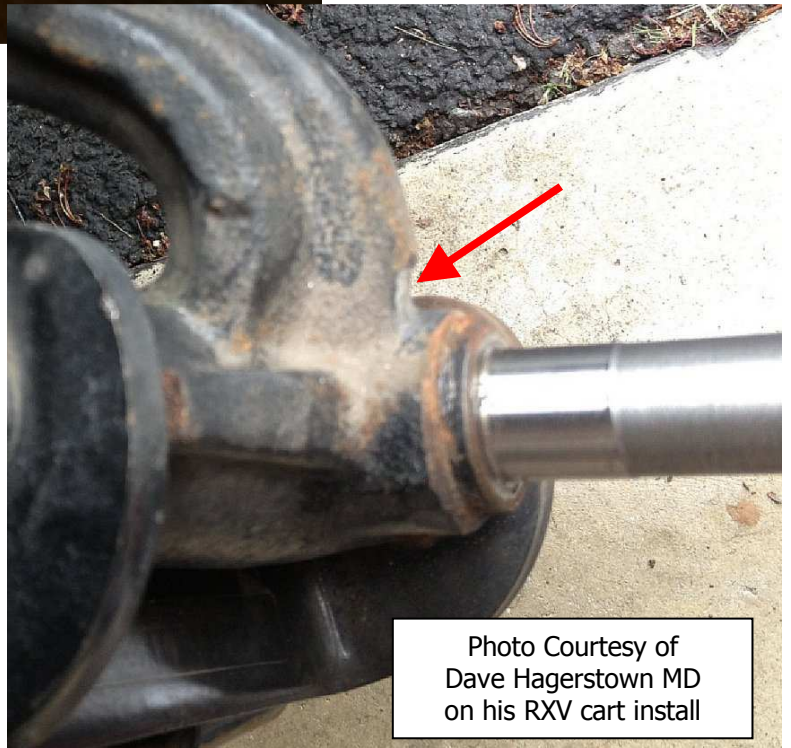


Photo Courtesy of
Dave Hagerstown MD
on his RXV cart install

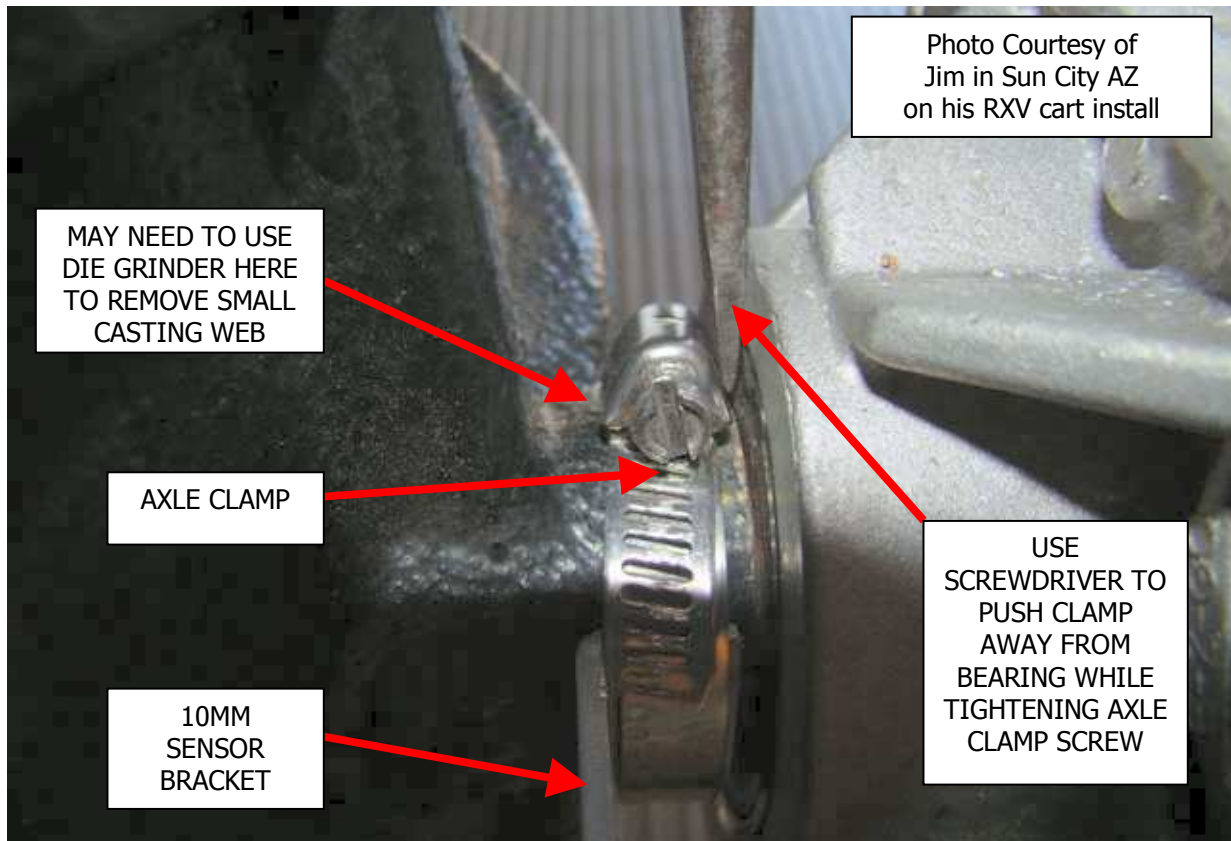
Step THREE:

- Locate the LONG 10MM Speed Sensor bracket. This will mount to the axle shaft.
- Mount 10MM Sensor onto bracket with threaded end barely protruding, leave the nuts finger tight, these will be adjusted later.

Bracket foot faces forward
Towards sensor end as shown



Re-grease the wheel stub and bearings and install per manufacture specifications.
Mount the sensor bracket to the axle as shown below. **AFTER THE CLAMP IS TIGHTENED SPIN THE HUB AND ENSURE THE CLAMP DOES NOT TOUCH THE WHEEL BEARING SEAL.**

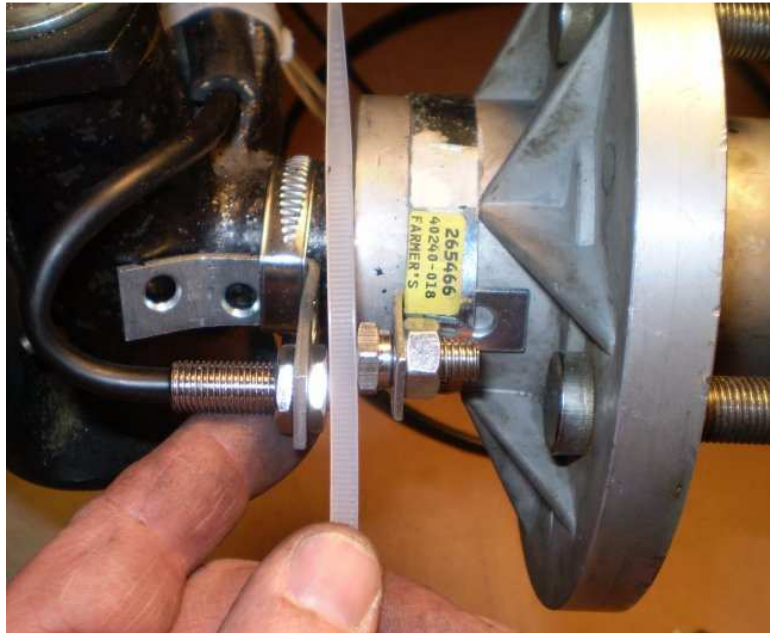


Step FOUR – MOUNTING THE MAGNET:

The 6MM Magnet mounts to the rotating wheel hub with one of either **SHORT HUB** or aftermarket **HEAVY DUTY** Hub design. Your wheel hub may be of **TWO** variations:

1. HEAVY DUTY AFTERMARKET WHEEL HUB

See EX-RAY OPERATORS MANUAL Page 22



2. SHORT WHEEL HUB

See EX-RAY OPERATORS MANUAL Page 25 to drill the bracket mounting hole procedures.



Step FIVE - CABLE ROUTING

(As shown in EX-RAY OPERATORS MANUAL PAGE 24)

Two methods to route the cable, out the front and out the rear.

The CABEL ROUTING OBJECTIVE is to provide ample cable sensor support and prevent pinch hazards that can dangerously affect steering.

The preferred method is shown below.

Route the cable to prevent contact with the wheel. The full LEFT and full RIGHT turn stops should be checked to ensure the cable is not pinched, binds, or rubs.

CAUTION: THE CABLE MUST NOT CONTACT THE MOVING STEERING KNUCKLE OR TIRE!

Secure the cable with TWO cable clamps (i.e. ZIP™ TIES).

Watch for CHAFFING points that may damage the cable. Always use TWO cable ties side by side (should one break in the future)

ROTATE THE STEERING FULL LEFT LOCK TO FULL RIGHT LOCK, CHECK FOR CABLE PINCH HAZARDS!



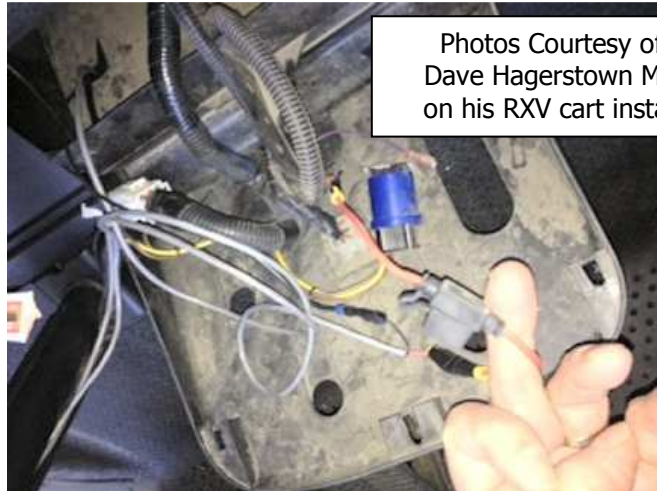
WARNING: IMPROPER INSTALLATION OF THE CABLE CAN CAUSE STEERING ISSUES AND SAFETY HAZARDS.

Feed the connector over the TOP of the steering column. Let cable hang for now. (as shown in the Temp Extension Cable Installation section)



Step SIX - CONNECT POWER:

EX-RAY Power reads the battery voltage for electric vehicles and monitor alternator charging for gas powered vehicles. To connect to the RXV power, there is the "DATA connector" located in the dash below the cup holders. Locate and remove the screws on the CUP HOLDER dash plate as shown;



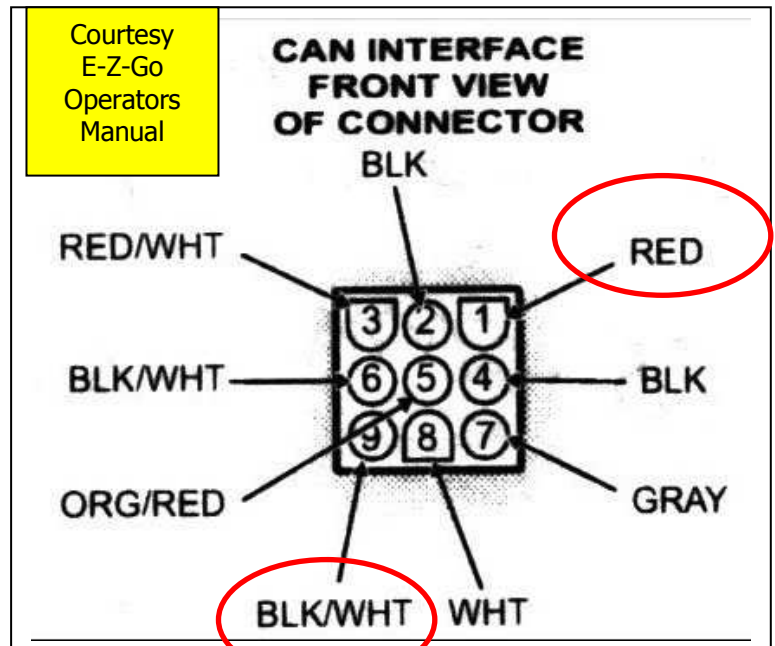
Photos Courtesy of
Dave Hagerstown MD
on his RXV cart install

- Connect EX-RAY power using a 1AMP to 3Amp ATC fuse (located from a local automotive store)
- Connect RED wire positive to DATA Connector PIN 1 (RED WIRE)
- Connect BLACK EX-RAY Power to DATA Connector PIN 9 (BLACK-WHITE Wire) which is OPPOSITE CORNER to PIN 1



Another option is to connect the EXRAY power wires to the KEY SWITCH RED wire and a BLACK wire that is Battery Negative.

NOTE: RXV cars built before serial number #5001639 use a SUPPRESSOR circuit added to the BRAKE wires at the DATA connector PIN 6+7 to eliminate electrical noise caused by the pulsing brake control circuit. Without this suppressor, spurious noise can cause temp and speed reading errors.



If there are any questions, please contact me (Author: Tony Thorne) through email: tony@energydesigntek.com
Thank you for your business and hope you enjoy your EX-RAY.