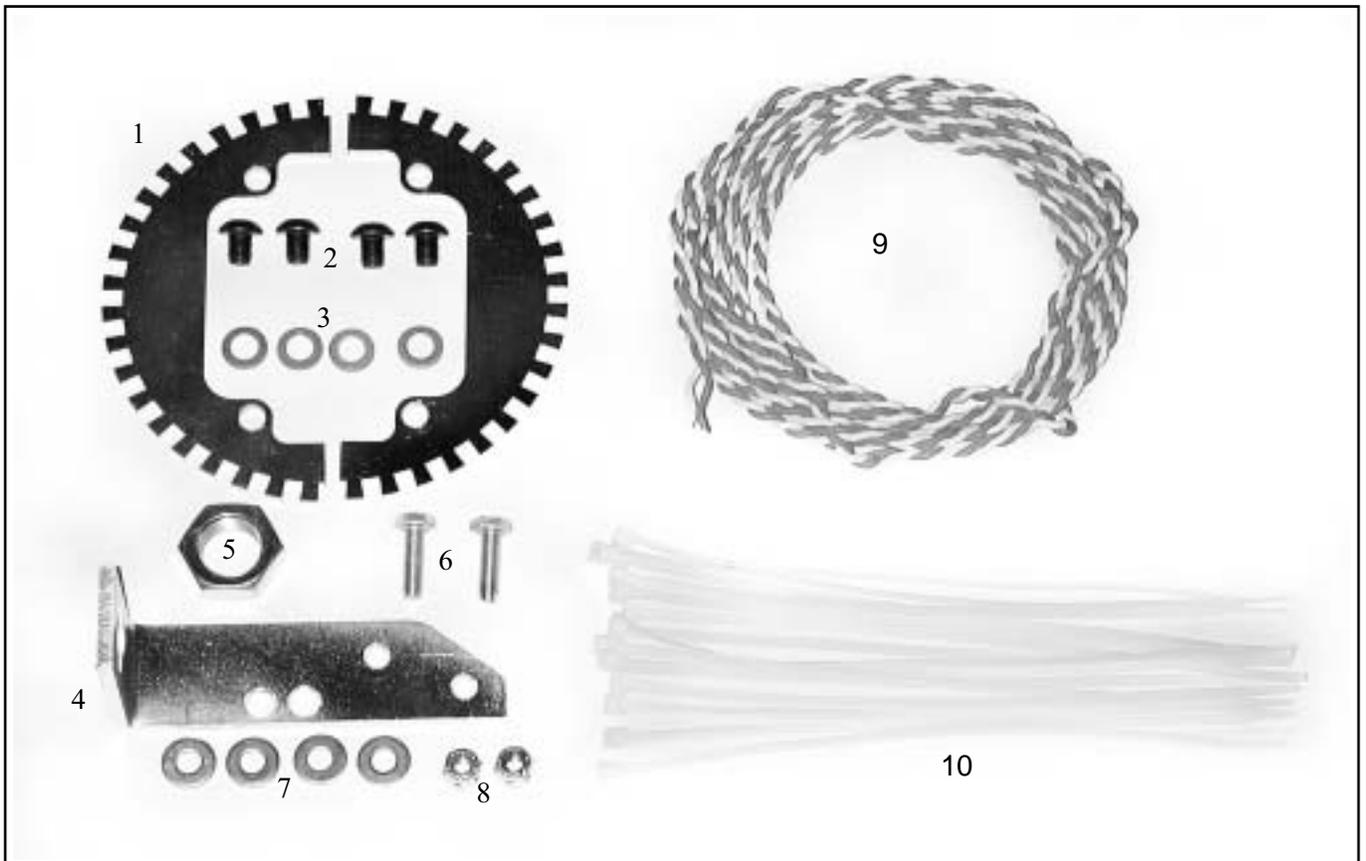


Differential Mounted Reluctor Ring Installation Instructions

Parts list

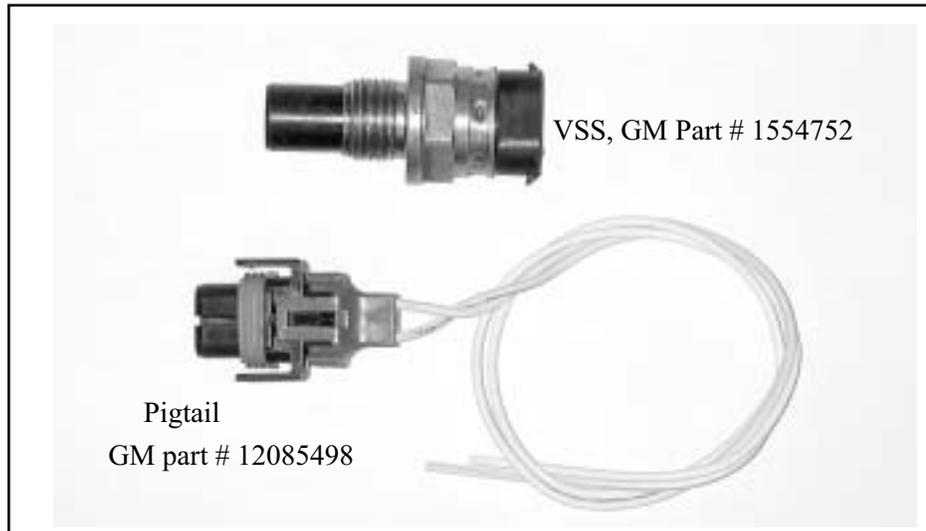
1. reluctor ring half (2 pieces)
2. 5/16-24 x 3/8" button-head allen bolts (4 pieces)
3. 5/16" aluminum washers (4 pieces)
4. VSS bracket (1 piece)
5. 3/4-16 jam nut (1 piece)
6. 1/4"-28 x 1" bolt (2 pieces)
7. 1/4" steel washers (4 pieces)
8. 1/4"-28 lock-nut (2 pieces)
9. twisted pair wire (10 ft)
10. tie wraps (15 pieces)



Differential Mounted Reluctor Ring Installation Instructions

Additional parts required

1. VSS GM part # 15547452. This part is used on 1989 and newer S-10 4x4, AWD Astro Vans and full-size 4x4 trucks, and is often readily available at wrecking yards. Retail cost is about \$100. Stealth Conversions offers new vss for \$80, and used vss for \$40.
2. VSS pig-tail, GM part # 12085498, or AC Delco #PT120. Retail cost \$22. Available from Stealth for \$12.



Tools required

1. 1/4" drill bit and electric drill
2. soldering iron or crimping tools
3. floor jack
4. jackstands
5. 11mm wrench
6. 7/16" wrench
7. 3/16" allen wrench
8. hammer
9. adjustable wrench
10. 5/16-24 tap
11. grinder or saw (to shorten 5/16" bolts)
12. vise-grips® or locking pliers

Differential Mounted Reluctor Ring Installation Instructions

Installation instructions for reluctor ring

1. Jack up rear of vehicle and place on jack-stands
2. Remove the 5/16" bolts that hold the driveshaft to the differential pinion flange. These bolts normally require an 11 mm wrench. It is not necessary to remove the driveshaft.
3. Run a 5/16-24 tap through the differential pinion flange bolt holes to clean up dirty or rusted threads.
4. Install reluctor ring halves on back side of differential pinion flange using 5/16-24 x 3/8" button head allen bolts. The aluminum washers act as spacers between the head of the button head allen bolts and the reluctor ring halves, reducing the total thread engagement to about 4 full threads. Most likely, the button head allen bolts will bottom against the driveshaft bolts removed in step 2 and you will need to shorten the driveshaft bolts as explained in step 5 (below).



5. Shorten the four driveshaft bolts (from step 2) by 1/8" to 3/16" as shown by the center bolt. One way to accurately shorten the bolts is to install 5/16-24 nuts onto the bolts (as shown on the right) and leave 1/8" to 3/16" exposed, tighten the nuts together and remove the "exposed" threads with a saw or a grinder.

Differential Mounted Reluctor Ring Installation Instructions

6. Install the driveshaft onto the pinion flange with the shortened bolts, making sure they tighten properly, and don't bottom against the 5/16-24 x 3/8" button head allen bolts. If the bolts bottom out, shorten them another 1/8".

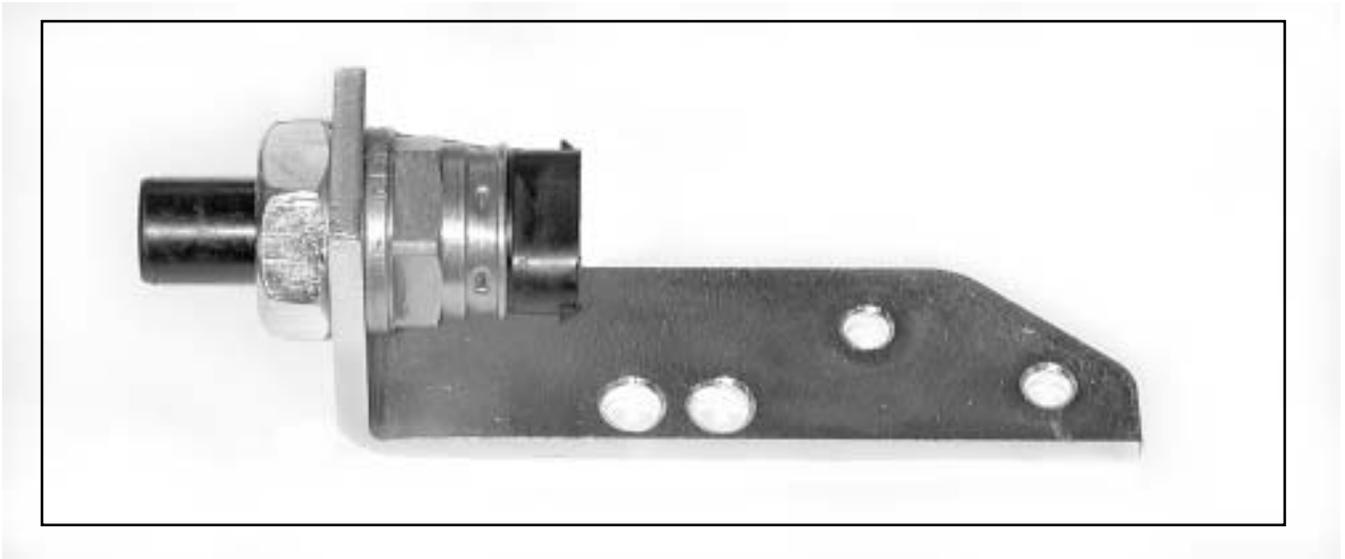


7. The reluctor ring will probably have to be "adjusted" or "aligned" with an adjustable wrench or small hammer to eliminate any wobble. Do not try to align the reluctor ring until after the VSS and bracket are test-fitted.

Differential Mounted Reluctor Ring Installation Instructions

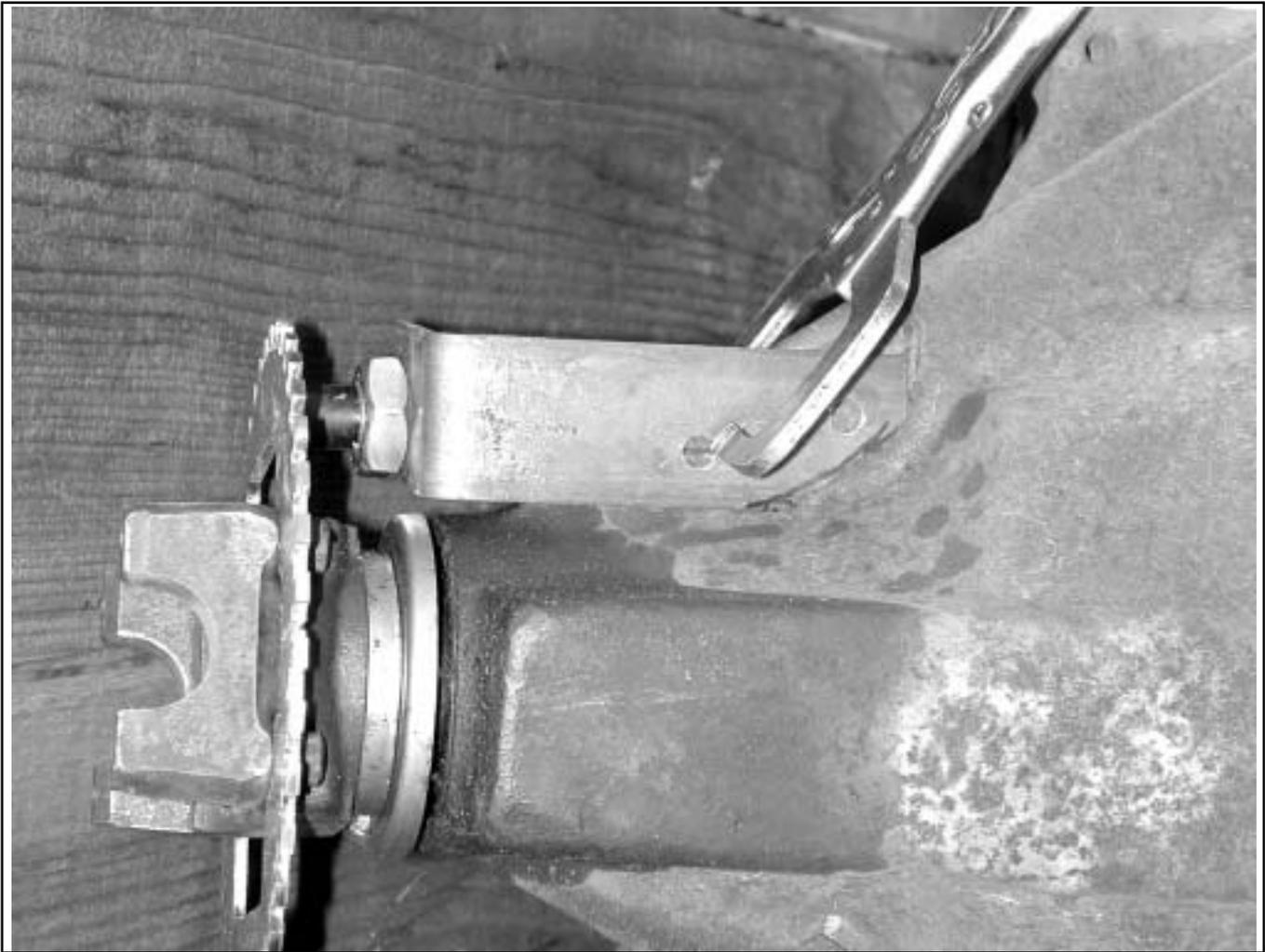
Installation of VSS bracket

1. Attach VSS to bracket with the 3/4"-16 nut.



Differential Mounted Reluctor Ring Installation Instructions

2. Attach VSS bracket to the differential flange with a pair of Vise-grips®, and adjust the position so that the tip of the VSS is about 1/8" to 3/16" from the reluctor ring. Spin the driveshaft and make sure the reluctor ring does not have excessive wobble. Normally, some adjustment will be required. Adjust, as necessary, with an adjustable wrench or small hammer. Adjust so the wobble is less than 1/32".



3. Drill 1/4" holes into differential flange as shown, using the holes in the VSS bracket as a guide.
4. Bolt the VSS bracket to the differential with the 1/4-28 x 1" bolts and 1/4"-28 self-locking nuts.

Differential Mounted Reluctor Ring Installation Instructions

Installing wire to VSS



1. Connect the wire to the VSS. Use tie-wraps to secure the wire to the bracket, and to the differential. Drill 1/4" holes in the differential webbing as required to secure the twisted-pair wire. Run the twisted wire down the axle tubes to the parking brake cable and to the frame or chassis using tie-wraps as required. Route the twisted-pair wire to the VSS wiring that would normally go to the transmission or transfer case, and splice together. The polarity of the wire does not matter as the sensor puts out an alternating current signal.

06/10/03