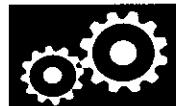


## **Driveline/Axle**

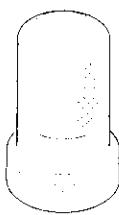
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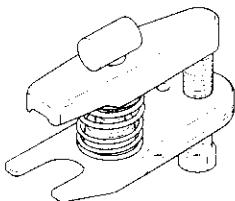
# Driveline/Axle

## Special Tools

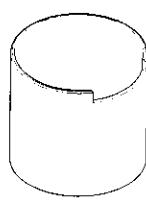
Ref. No.	Tool Number	Description	Qty
①	07GAD-PH70201	Oil Seal Driver	1
②	07MAC-SL00200	Ball Joint Remover, 28 mm	1
③	07NAF-SR30101	Half Shaft Base	1
④	07XAC-001010A	Threaded Adapter, 22 x 1.5 mm	1
⑤	07XAC-001020A	Threaded Adapter, 24 x 1.5 mm	1
⑥	07746-0010400	Attachment, 52 x 55 mm	1
⑦	07746-0030400	Driver, 35 mm I.D.	1
⑧	07749-0010000	Driver	1
⑨	07947-SB00100	Oil Seal Driver	1



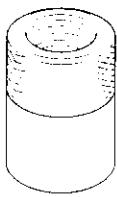
①



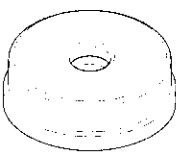
②



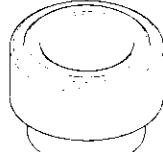
③



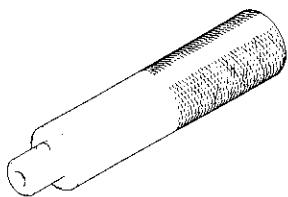
④ ⑤



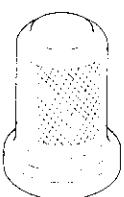
⑥



⑦



⑧

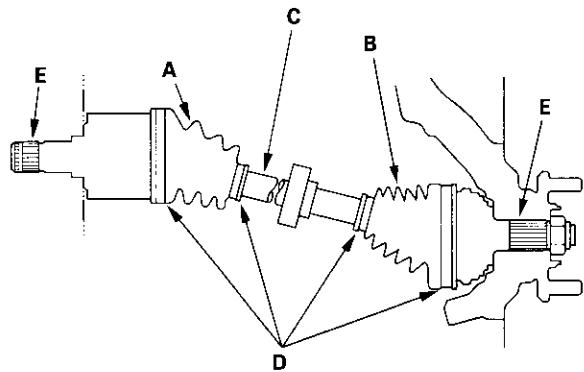


⑨



## Driveshaft Inspection

1. Check the inboard boot (A) and the outboard boot (B) on the driveshaft (C) for cracks, damage, leaking grease, and loose boot bands (D). If any damage is found, replace the boot and boot bands.



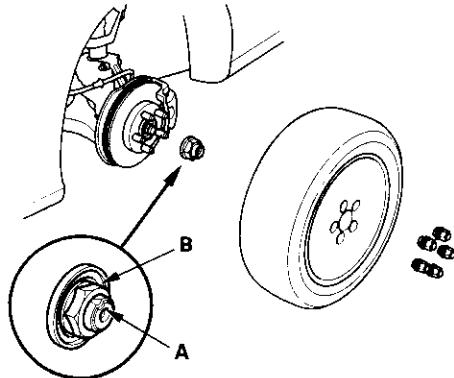
2. Turn the driveshaft by hand, and make sure the splines (E) and joint are not excessively loose.
3. Make sure the driveshaft is not twisted or cracked; if it is, replace it.

## Driveshafts Removal

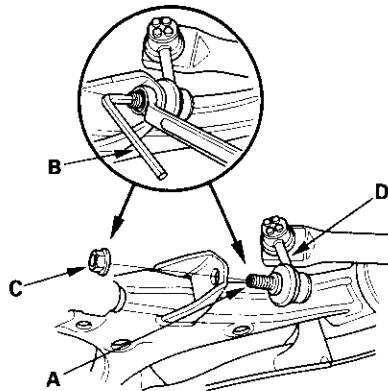
### Special Tool Required

Ball joint remover, 28 mm 07MAC-SL00200

1. Loosen the wheel nuts slightly.
2. Raise the front of the vehicle, and support it with safety stands in the proper locations (see page 1-8).
3. Remove the wheel nuts and front wheels.



4. Lift up the locking tab (A) on the spindle nut (B), then remove the nut.
5. If the driveshaft is removed, drain the transmission fluid. Reinstall the drain plug using a new washer:
  - Manual transmission (see page 13-4)
  - Automatic transmission (see page 14-139)
6. Hold the stabilizer ball joint pin (A) with a hex wrench (B), and remove the flange nut (C). Separate the front stabilizer link (D) from the lower arm.



(cont'd)

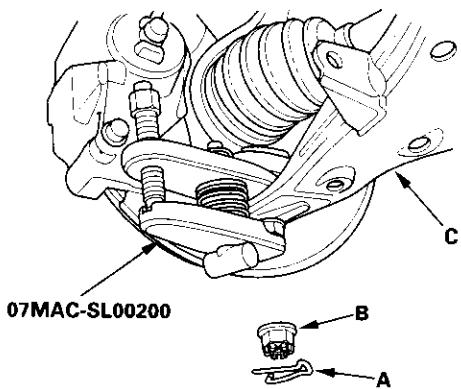
# Driveline/Axle

## Driveshafts Removal (cont'd)

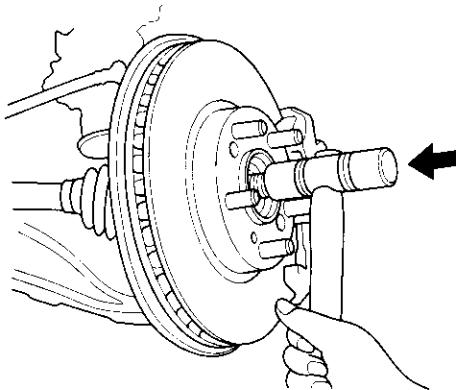
7. Remove the lock pin (A) from the lower arm ball joint castle nut (B), and remove the nut.

NOTE

- To avoid damaging the ball joint, install a hex nut on to the threads of the ball joint.
- Be careful not to damage the ball joint boot when installing the remover.

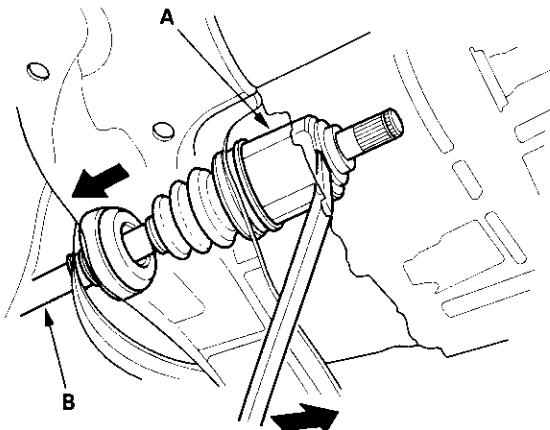


8. Separate the ball joint from the lower arm (C) with the special tool (see page 18-10). Be careful not to dislodge the lower ball joint from the knuckle.
9. Pull the knuckle outward, and remove the driveshaft outboard joint from the front wheel hub using a plastic hammer.

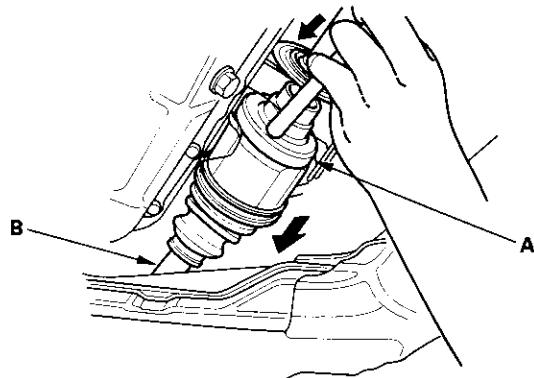


10. Pry/tap the inboard joint (A) with a prybar, and remove the driveshaft from the differential case or bearing support as an assembly. Do not pull on the driveshaft (B) because the inboard joint may come apart. Draw the driveshaft straight out to avoid damaging the differential oil seal.

Left driveshaft:



Right driveshaft:





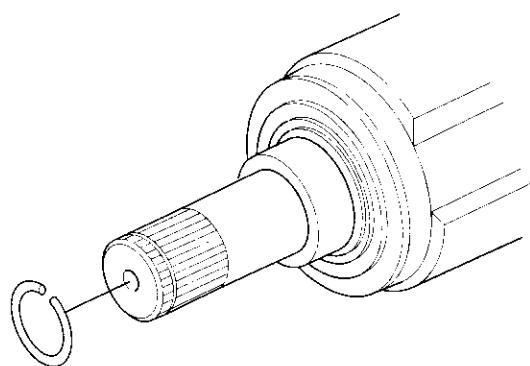
## Driveshafts Disassembly

### Special Tools Required

- Threaded adapter, 22 x 1.5 mm 07XAC-001010A
- Threaded adapter, 24 x 1.5 mm 07XAC-001020A
- Boot band pincers, commercially available
- Slide hammer, commercially available

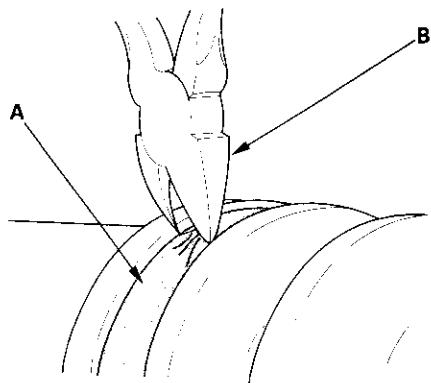
### Inboard Joint Side:

1. Remove the set ring from the inboard joint.

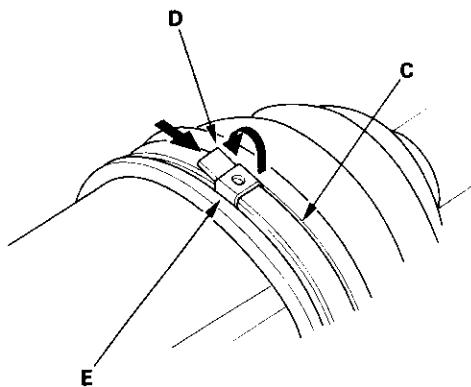


2. Remove the boot bands. Be careful not to damage the boot and dynamic damper.
  - If the boot band is a welded type (A), cut the boot band (B).
  - If the boot band is a double loop type (C), lift up the band bend (D), and push it into the clip (E).
  - If the boot band is a low profile type (F), pinch the boot band using a commercially available boot band pincers (G).

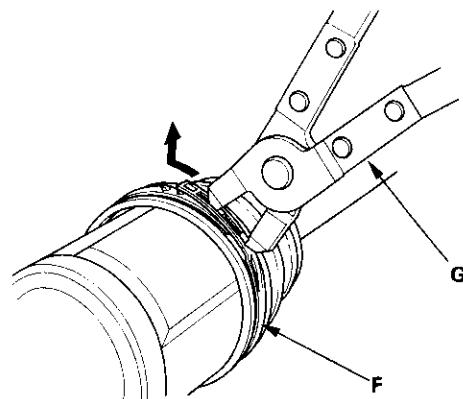
#### Welded Type



#### Double Loop Type



#### Low Profile Type

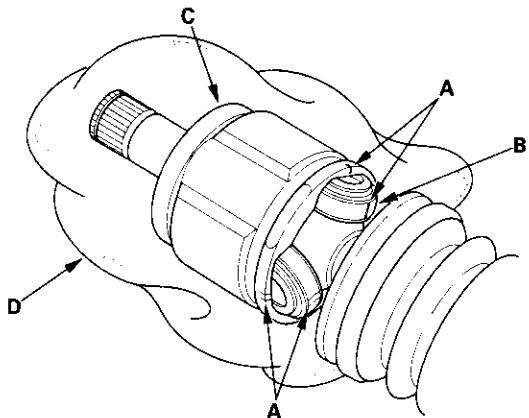


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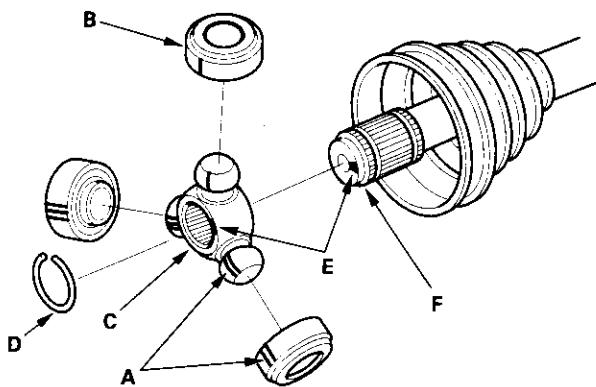
# Driveline/Axle

## Driveshafts Disassembly (cont'd)

3. Make a mark (A) on each roller (B) and inboard joint (C) to identify the locations of rollers and grooves in the inboard joint. Then remove the inboard joint on the shop towel (D). Be careful not to drop the rollers when separating them from the inboard joint.



4. Make a mark (A) on the rollers (B) and spider (C) to identify the locations of rollers on the spider, then remove the rollers.

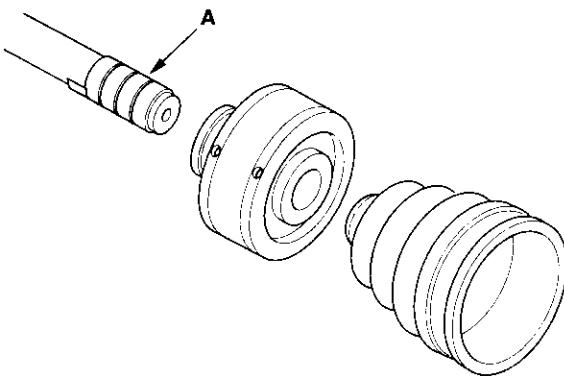


5. Remove the circlip (D).

6. Make a mark (E) on the spider (C) and driveshaft (F) to identify the position of the spider on the shaft.

7. Remove the spider (C).

8. Wrap the splines on the driveshaft with vinyl tape (A) to prevent damage to the boot and dynamic damper.



9. Remove the inboard boot and dynamic damper. Be careful not to damage the boot and dynamic damper.

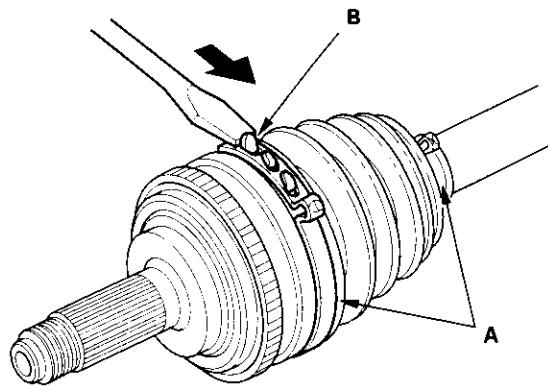
10. Remove the vinyl tape.



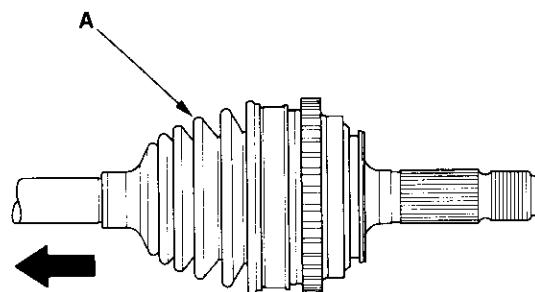
### Outboard Joint Side:

1. Remove the boot bands. Be careful not to damage the boot and dynamic damper.
  - If the boot band is an ear clamp type (A), lift up the three tabs (B) with a screwdriver.

#### Ear Clamp Type

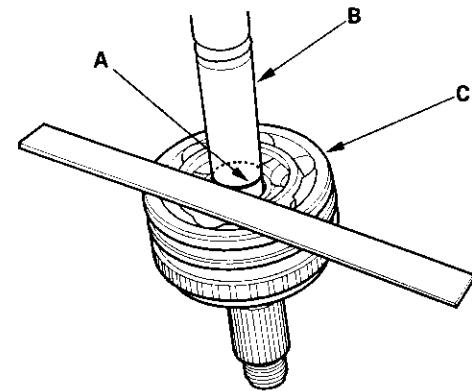


2. Slide the outboard boot (A) to the inboard joint side. Be careful not to damage the boot.



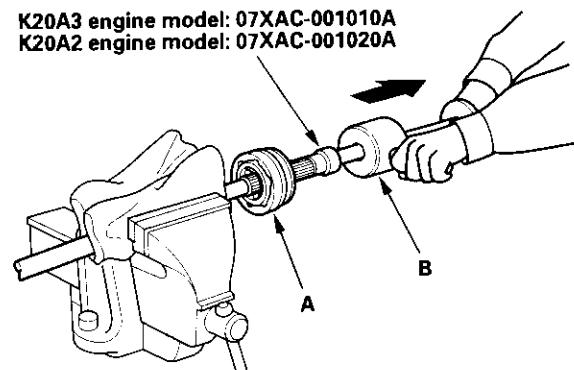
3. Wipe off the grease to expose the driveshaft and the outboard joint inner race.

4. Make a mark (A) on the driveshaft (B) at the same position of the outboard joint end (C).



5. Carefully clamp the driveshaft in a vise.

K20A3 engine model: 07XAC-001010A  
K20A2 engine model: 07XAC-001020A



6. Remove the outboard joint (A) using the special tool and a commercially available 5/8" x 18 slide hammer (B).

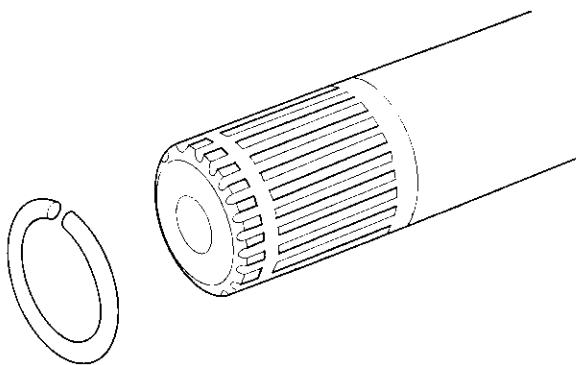
7. Remove the driveshaft from the vise.

(cont'd)

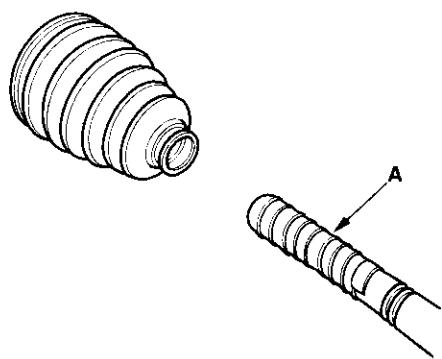
# Driveline/Axle

## Driveshafts Disassembly (cont'd)

8. Remove the stop ring from the driveshaft.



9. Wrap the splines on the driveshaft with vinyl tape (A) to prevent damage to the boot.



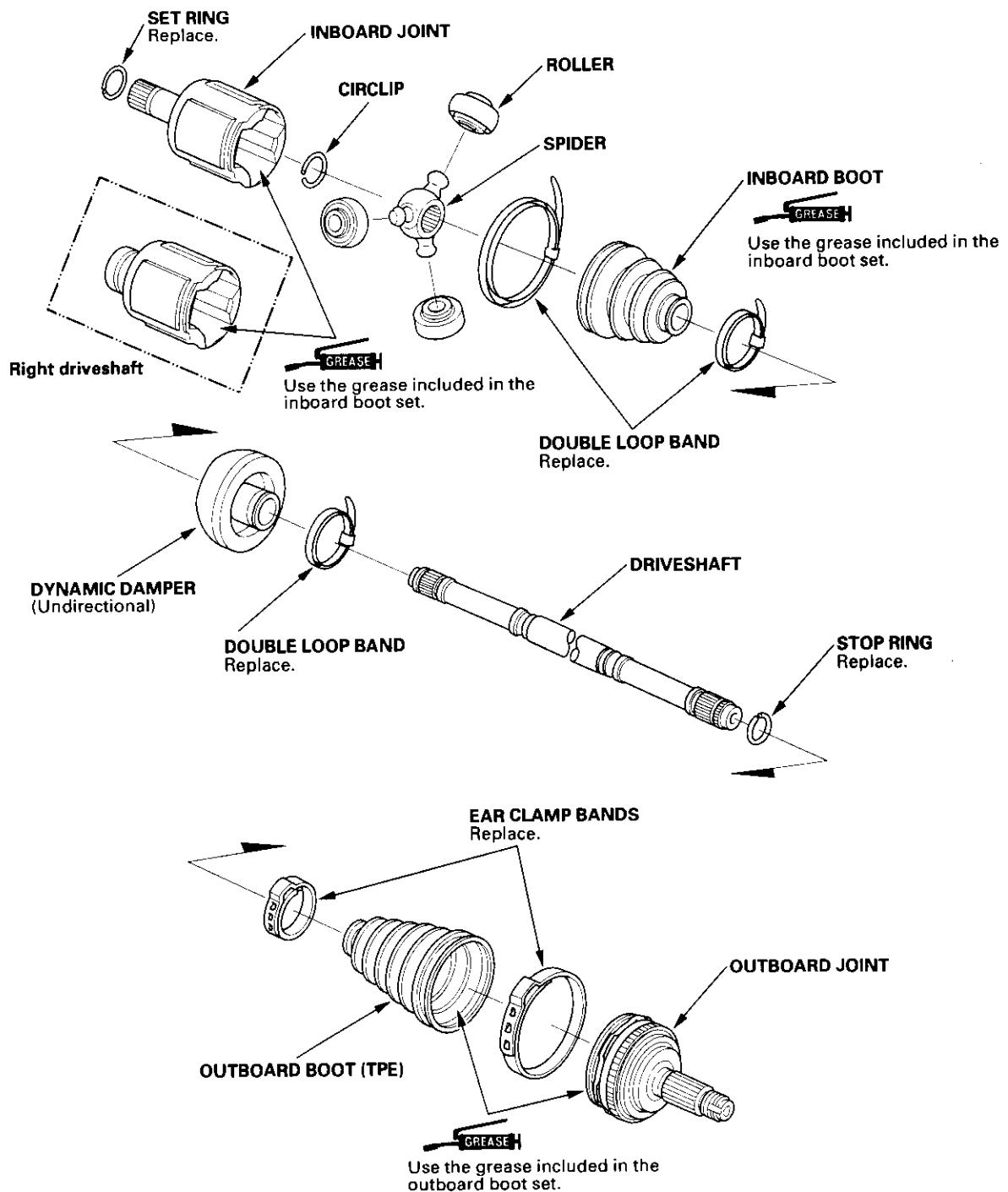
10. Remove the outboard boot. Be careful not to damage the boot.

11. Remove the vinyl tape.



## Driveshafts Reassembly

### Exploded View



(cont'd)

# Driveline/Axle

## Driveshafts Reassembly (cont'd)

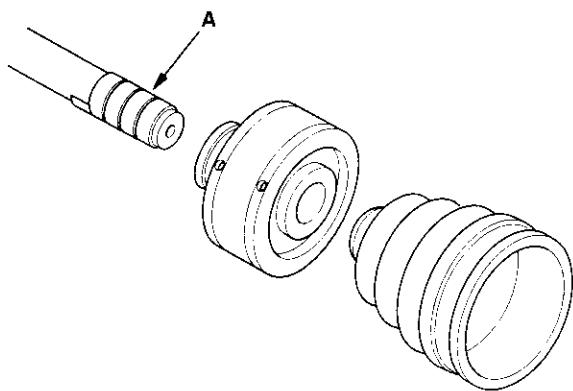
### Special Tools Required

- Boot band tool, KD-3191 or equivalent commercially available
- Boot band pincers, KENT-MOORE J-35910 or equivalent commercially available

NOTE: Refer to the Exploded View as needed during this procedure.

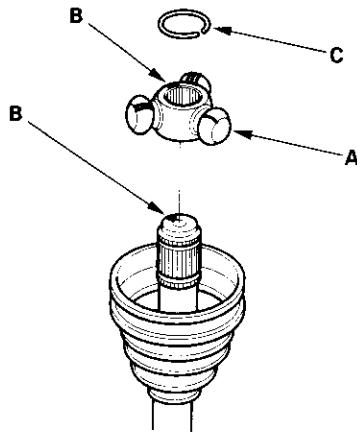
### Inboard Joint Side:

1. Wrap the splines with vinyl tape (A) to prevent damage to the inboard boot and dynamic damper.



2. Install the dynamic damper and inboard boot onto the driveshaft, then remove the vinyl tape. Be careful not to damage the inboard boot and dynamic damper.

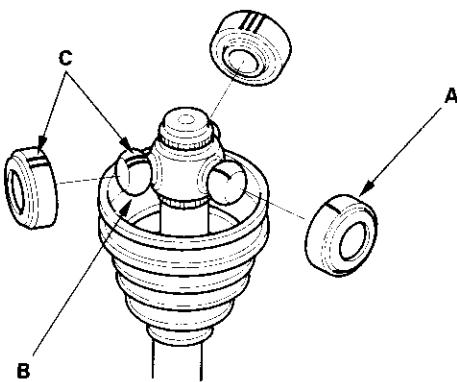
3. Install the spider (A) onto the driveshaft by aligning the marks (B) on the spider and the end of the driveshaft.



4. Fit the circlip (C) into the driveshaft groove. Always rotate the circlip in its groove to make sure it is fully seated.

5. Fit the rollers (A) onto the spider (B) with their high shoulders facing outward, and note these items:

- Reinstall the rollers in their original positions on the spider by aligning the marks (C).
- Hold the driveshaft pointed up to prevent the rollers from falling off.





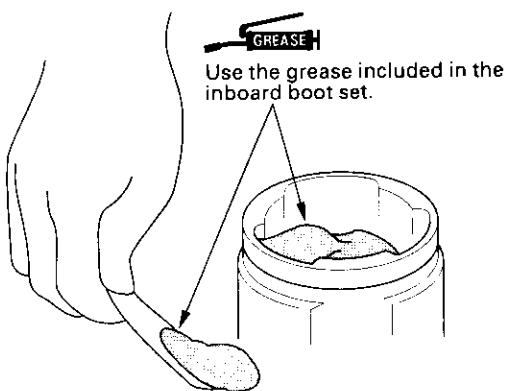
6. Pack the inboard joint with the joint grease included in the new driveshaft set.

**Grease quantity**

Inboard joint:

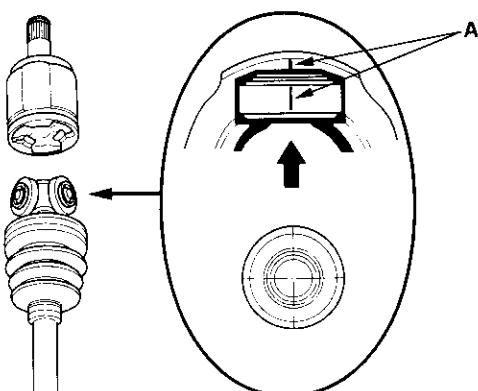
K20A2 engine model: 150–160 g (5.3–5.6 oz)

K20A3 engine model: 130–140 g (4.6–4.9 oz)



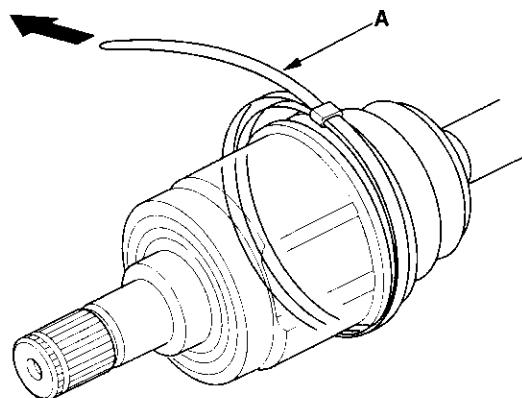
7. Fit the inboard joint onto the driveshaft, and note these items:

- Reinstall the inboard joint onto the driveshaft by aligning the marks (A) on the inboard joint and the rollers.
- Hold the driveshaft so the inboard joint is pointing up to prevent it from falling off.



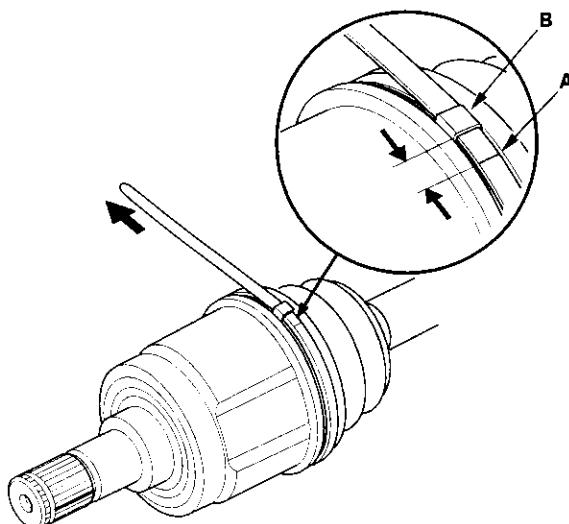
8. Adjust the inboard joint until the rollers are in the middle of the joint.

9. Fit the boot ends onto the driveshaft and the inboard joint, then install the new double loop band (A) onto the boot.



10. Pull up the slack in the band by hand.

11. Mark a position (A) on the band 10–14 mm (0.4–0.6 in.) from the clip (B).

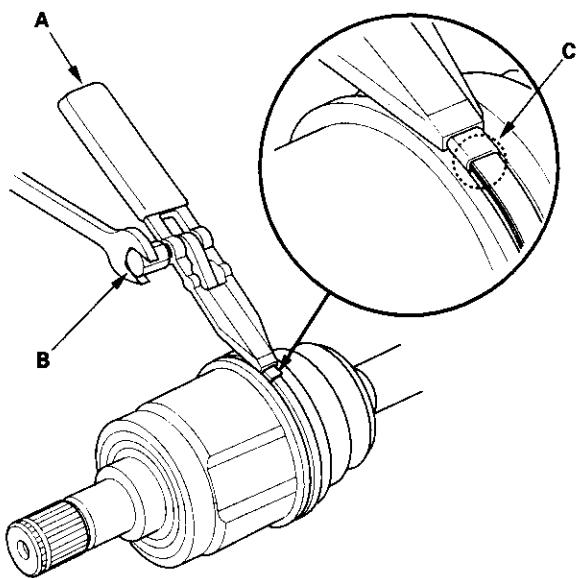


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# Driveline/Axle

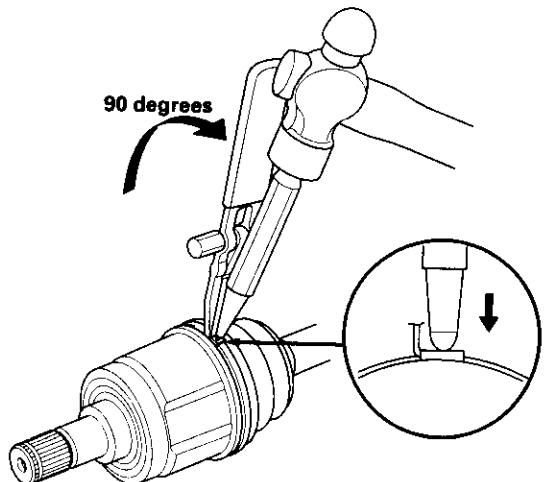
## Driveshafts Reassembly (cont'd)

12. Thread the free end of the band through the nose section of the commercially available boot band tool KD-3191 or equivalent (A), and into the slot on the winding mandrel (B).

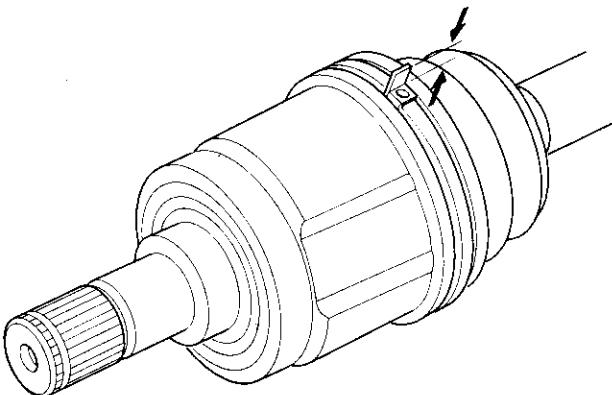


13. Place a wrench on the winding mandrel of the boot band tool, and tighten the band until the marked spot (C) on the band meets the edge of the clip.

14. Lift up the boot band tool to bend the free end of the band 90 degrees to the clip. Center-punch the clip, then fold over the remaining tail onto the clip.



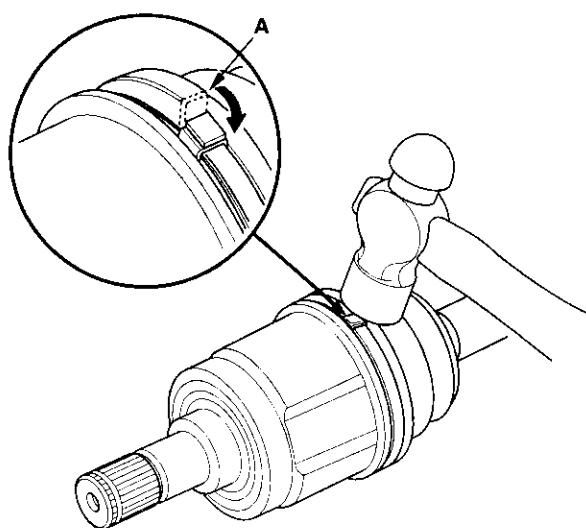
15. Unwind the boot band tool, and cut off the excess free end of the band to leave a 5–10 mm (0.2–0.4 in.) tail protruding from the clip.



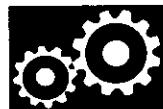
16. Bend the band end (A) by tapping it down with a hammer.

NOTE:

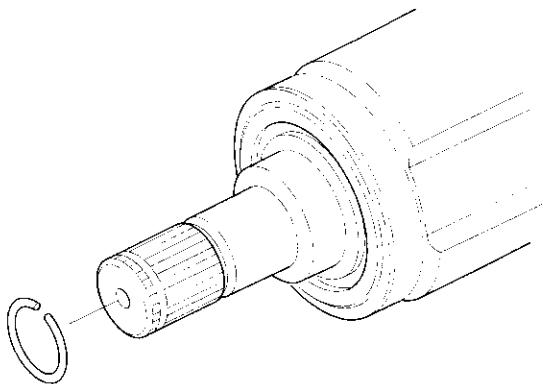
- Make sure the band and clip do not interfere with anything and the band does not move.
- Remove any grease remaining on the surrounding surfaces



17. Repeat steps 9 through 16 for the band on the other end of the boot.

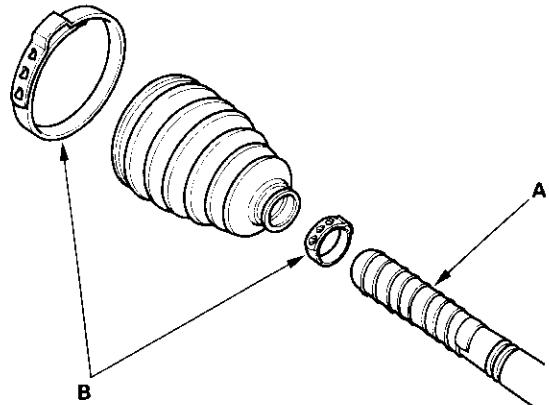


18. Install the new set ring.



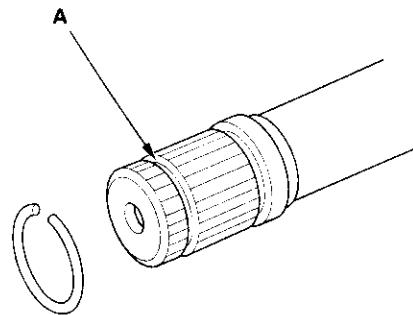
#### Outboard Joint Side:

1. Wrap the splines with vinyl tape (A) to prevent damage to the outboard boot.



2. Install the new ear clamp bands (B) and outboard boot, then remove the vinyl tape. Be careful not to damage the outboard boot.

3. Install the new stop ring into the driveshaft groove (A).

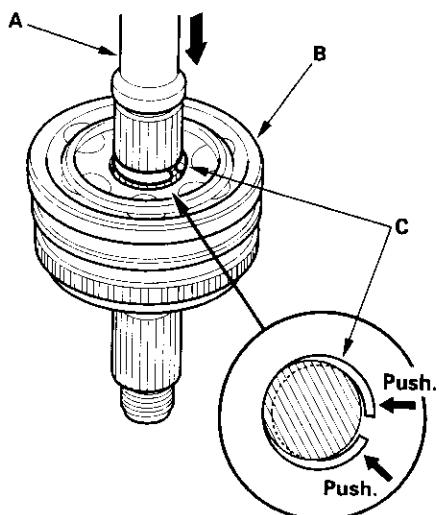


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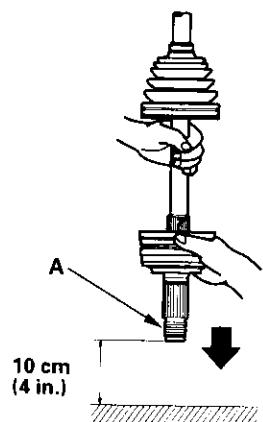
# Driveline/Axle

## Driveshafts Reassembly (cont'd)

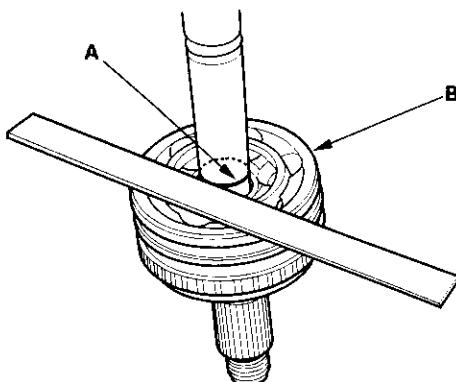
4. Insert the driveshaft (A) into the outboard joint (B) until the stop ring (C) is close to the joint.



5. To completely seat the outboard joint, pick up the driveshaft and joint, and drop them from about 10 cm (4 in.) onto a hard surface. Do not use a hammer as excessive force may damage the driveshaft. Be careful not to damage the threaded section (A) of the outboard joint.



6. Check the alignment of the paint mark (A) with the outboard joint end (B).



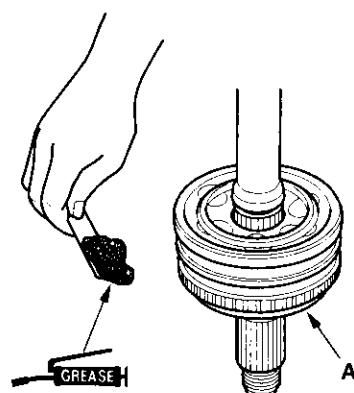
7. Pack the outboard joint (A) with the joint grease included in the new joint boot set.

### Grease quantity

#### Outboard joint:

K20A2 engine model: 140–150 g (4.9–5.3 oz)

K20A3 engine model: 105–115 g (3.7–4.1 oz)



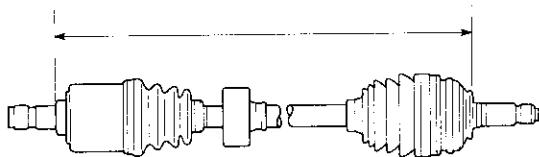
Use the grease included in the outboard boot set.



8. Adjust the length of the driveshafts to the figure below, then adjust the boots to halfway between full compression and full extension. Make sure the ends of the boots seat in the grooves of the driveshaft and joint.

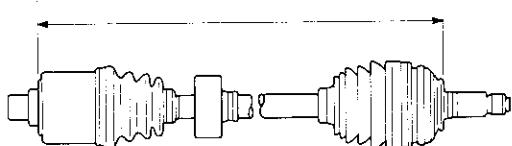
**Left driveshaft:**

**K20A2 engine model:**  
502–507 mm (19.8–20.0 in.)  
**K20A3 engine model:**  
503–508 mm (19.8–20.0 in.)



**Right driveshaft:**

**K20A2 engine model:**  
481–486 mm (18.9–19.1 in.)  
**K20A3 engine model:**  
485–490 mm (19.1–19.3 in.)



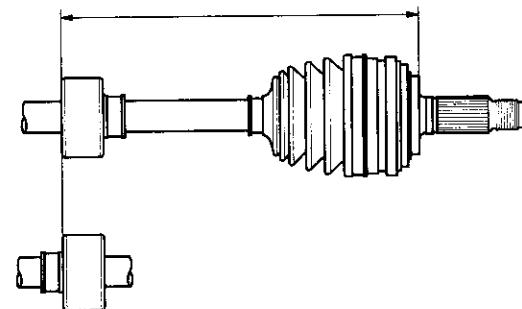
9. Position the dynamic damper as shown below.

**Left driveshaft:**

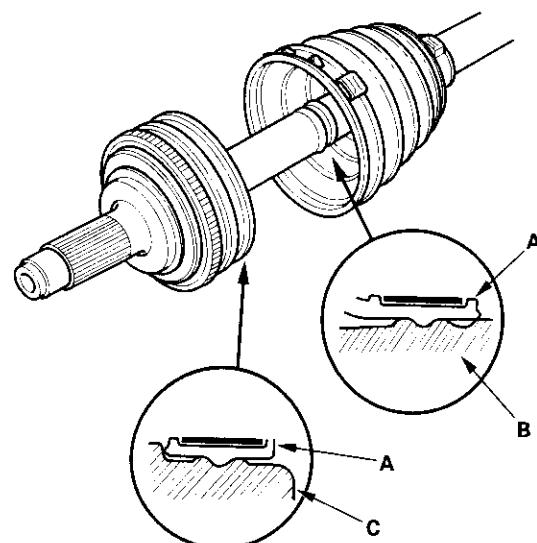
**K20A2 engine model:**  
287–291 mm (11.3–11.5 in.)  
**K20A3 engine model:**  
271–275 mm (10.7–10.8 in.)

**Right driveshaft:**

271–275 mm (10.7–10.8 in.)



10. Fit the boot (A) ends onto the driveshaft (B) and outboard joint (C).

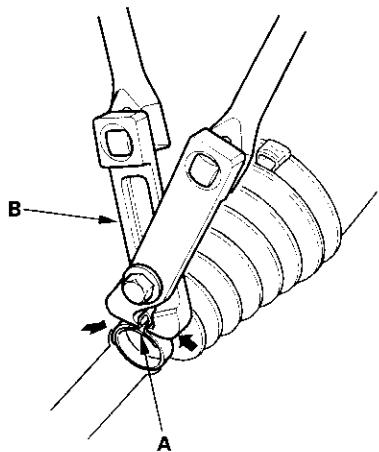


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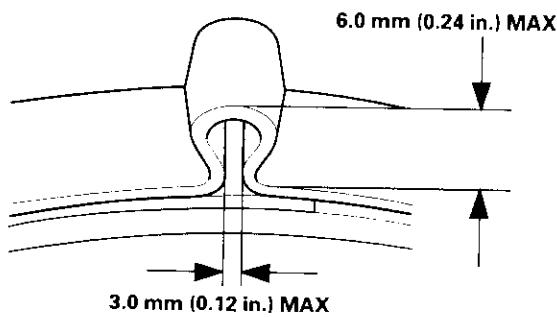
# Driveline/Axle

## Driveshafts Reassembly (cont'd)

11. Close the ear portion (A) of the band with a commercially available boot band pincers Kent-Moore J-35910 or equivalent (B).

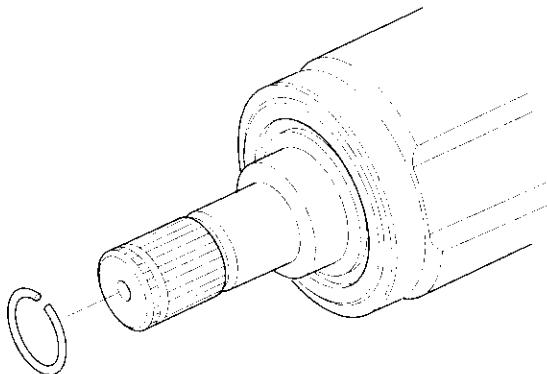


12. Check the clearance between the closed ear portion of the bands. If the clearance is not within the standard, close the ear portion of the bands farther.

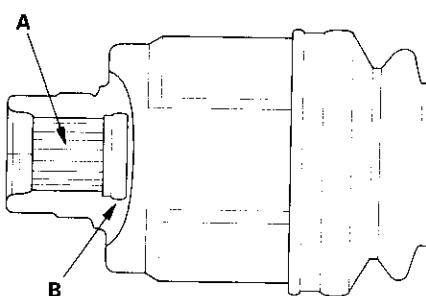


## Driveshafts Installation

1. Install a new set ring onto the set ring groove of the driveshaft (left driveshaft).

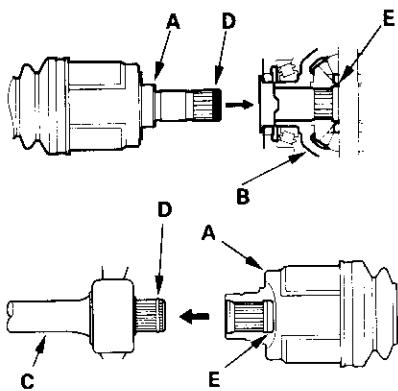


2. Apply 0.5–1.0 g (0.02–0.04 oz) of grease to the whole splined surface (A) of the right driveshaft. After applying grease, remove the grease from the splined grooves at intervals of 2–3 splines and from the set ring groove (B) so that air can bleed from the intermediate shaft.

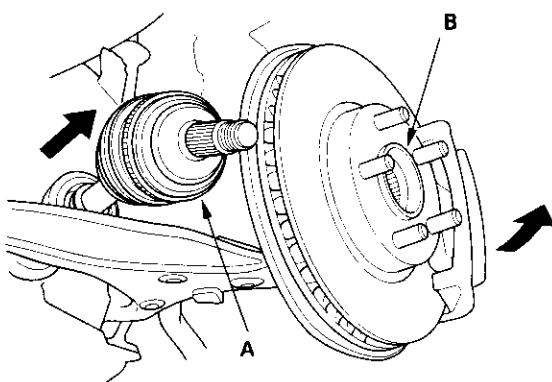




3. Clean the areas where the driveshaft contacts the differential thoroughly with solvent or brake cleaner, and dry with compressed air. Insert the inboard end (A) of the driveshaft into the differential (B) or intermediate shaft (C) until the set ring (D) locks in the groove (E).

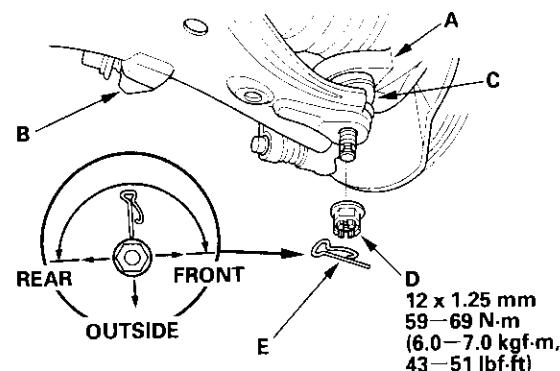


4. Install the outboard joint (A) into the front hub (B).



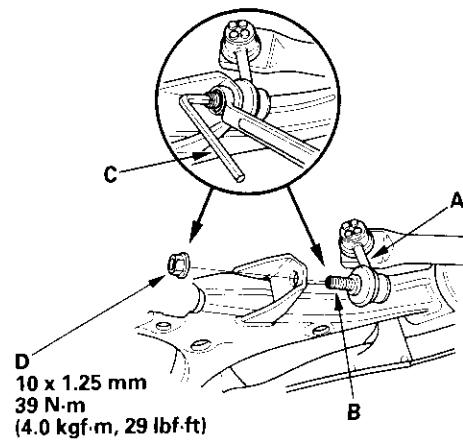
5. Install the knuckle (A) onto the lower arm (B). Be careful not to damage the ball joint boot (C). Wipe off the grease before tightening the nut at the ball joint. Torque the castle nut (D) to the lower torque specification, then tighten it only far enough to align the slot with the ball joint pin hole. Do not align the nut by loosening it.

NOTE: Make sure the ball joint boot is not damage or cracks.



6. Install the new lock pin (E) into the pin hole from the inside of the vehicle.

7. Connect the front stabilizer link (A) to the lower arm. Hold the stabilizer link ball joint pin (B) with a hex wrench (C), and tighten the new flange nut (D).

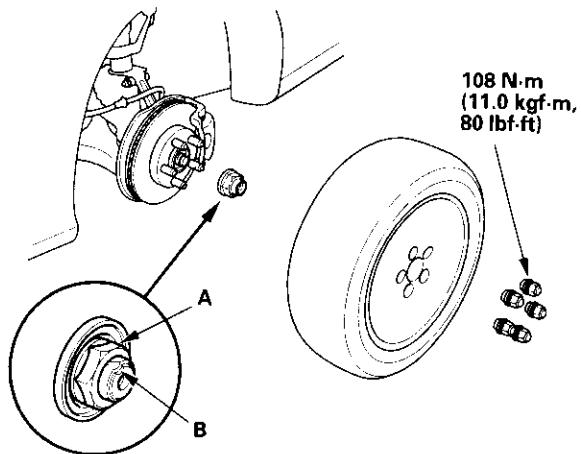


(cont'd)

# Driveline/Axle

## Driveshafts Installation (cont'd)

8. Install a new spindle nut (A), then tighten the nut. After tightening, use a drift to stake the spindle nut shoulder (B) against the driveshaft.

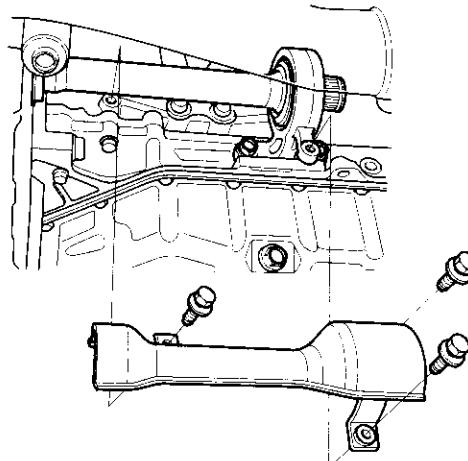


K20A2 engine model: 245 N·m (25.0 kgf·m, 181 lbf·ft)  
K20A3 engine model: 181 N·m (18.5 kgf·m, 134 lbf·ft)

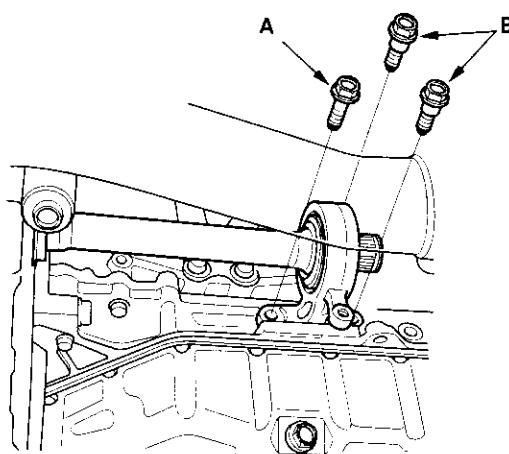
9. Clean the mating surfaces of the brake disc and the front wheel, then install the front wheel with the wheel nuts.
10. Refill the transmission with recommended transmission fluid:
  - Manual transmission (see page 13-4)
  - Automatic transmission (see page 14-139)
11. Check the front wheel alignment, and adjust it if necessary (see page 18-4).

## Intermediate Shaft Removal

1. Remove the right driveshaft (see page 16-3).
2. Remove the heat cover.



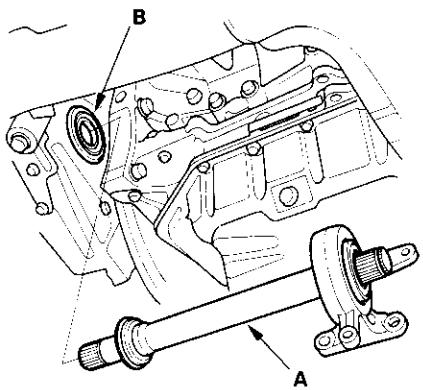
3. Remove the flange bolt (A) and two dowel bolts (B).





## Intermediate Shaft Disassembly

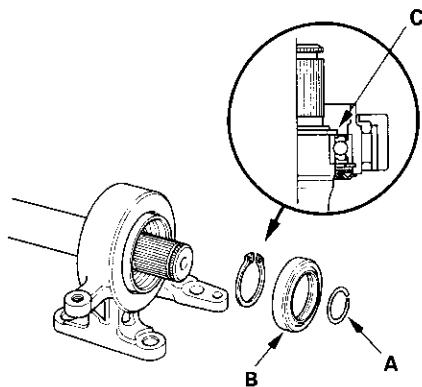
4. Remove the intermediate shaft (A) from the differential. Hold the intermediate shaft horizontal until it is clear of the differential to prevent damage to the differential oil seal (B).



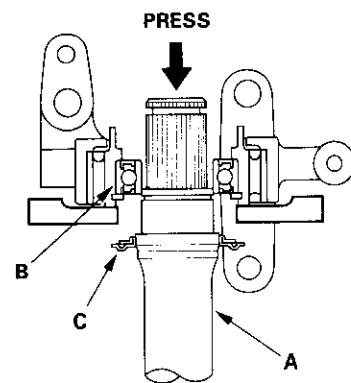
### Special Tools Required

- Oil seal driver 07947-SB00100
- Half shaft base 07NAF-SR30101

1. Remove the set ring (A), outer seal (B), and external snap ring (C).



2. Press the intermediate shaft (A) out of the intermediate shaft bearing (B) using a press. Be careful not to damage the metal rings (C) on the intermediate shaft during disassembly.

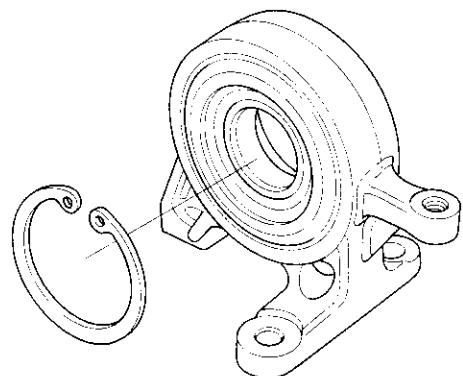


(cont'd)

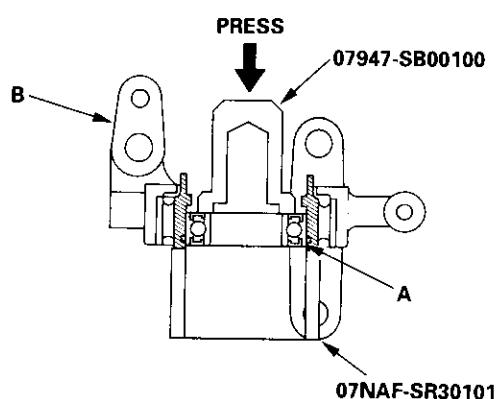
# Driveline/Axle

## Intermediate Shaft Disassembly (cont'd)

3. Remove the internal snap ring.



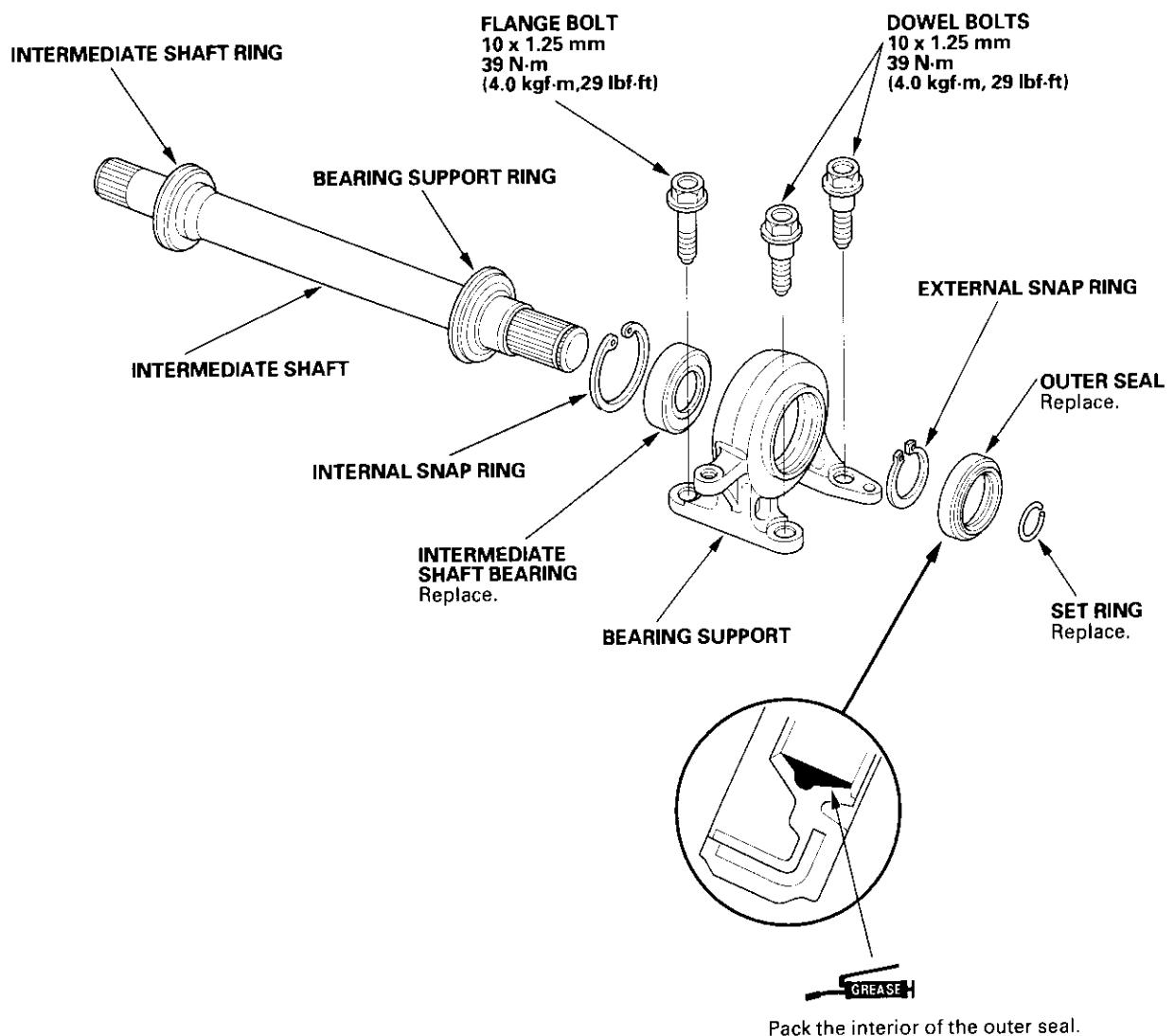
4. Press the intermediate shaft bearing (A) out of the bearing support (B) using the special tools and a press.





## Intermediate Shaft Reassembly

### Exploded View



(cont'd)

# Driveline/Axle

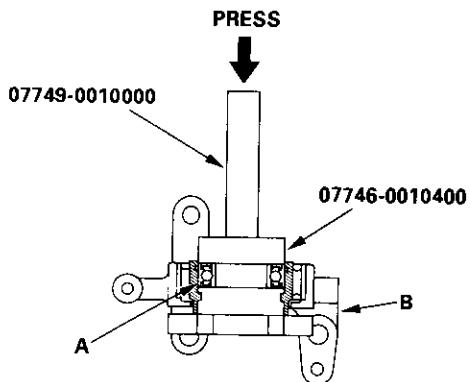
## Intermediate Shaft Reassembly (cont'd)

### Special Tools Required

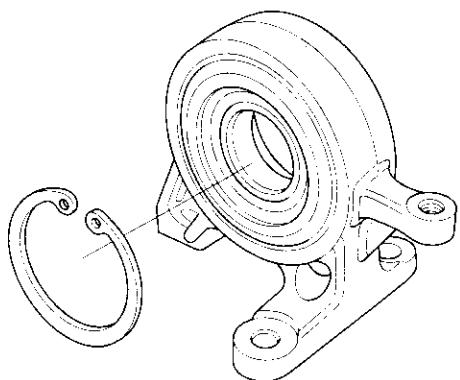
- Driver 07749-0010000
- Attachment, 52 x 55 mm 07746-0010400
- Attachment, 35 mm I.D. 07746-0030400
- Oil seal driver 07GAD-PH70201

NOTE: Refer to the Exploded View as needed during this procedure.

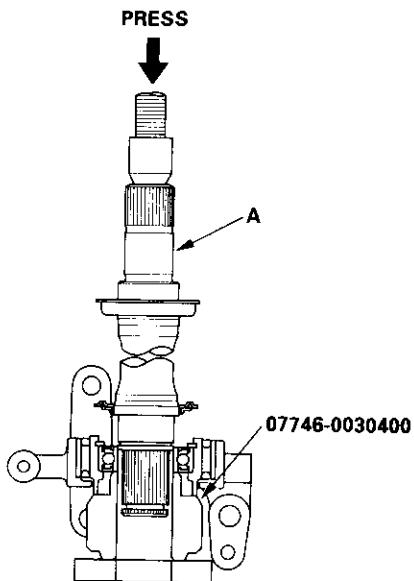
1. Clean the disassembled parts with solvent, and dry them with compressed air. Do not wash the rubber parts with solvent.
2. Press the intermediate shaft bearing (A) into the bearing support (B) using the special tools and a press.



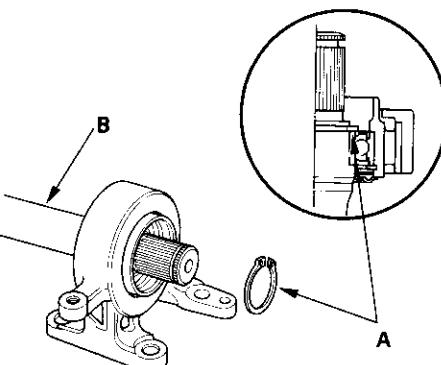
3. Install, then seat the internal snap ring into the groove of the bearing support.

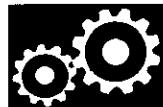


4. Press the intermediate shaft (A) into the shaft bearing using the special tool and a press.



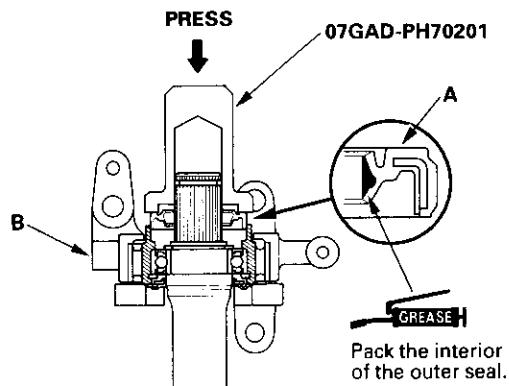
5. Install, then seat the external snap ring (A) into the groove of the intermediate shaft (B).



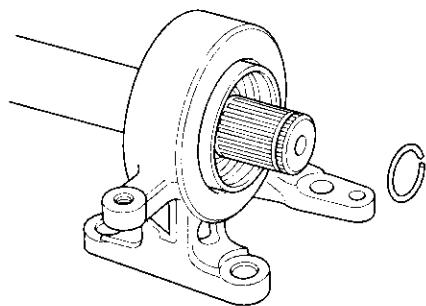


## Intermediate Shaft Installation

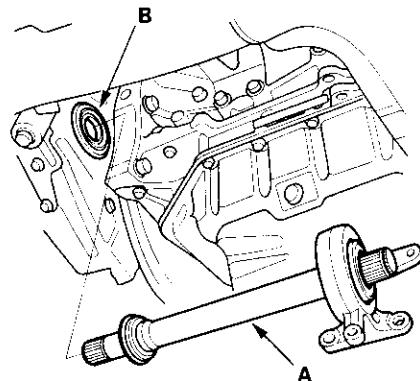
6. Install the outer seal (A) into the bearing support (B) using the special tool and a press.



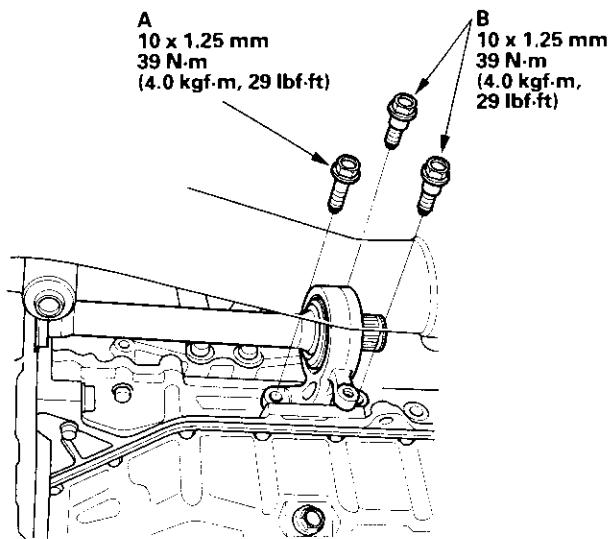
7. Install the set ring.



1. Use solvent or brake cleaner to thoroughly clean the areas where the intermediate shaft (A) contacts the transmission (differential), and dry with compressed air. Insert the intermediate shaft assembly into the differential. Hold the intermediate shaft horizontal to prevent damage to the differential oil seal (B).



2. Install the flange bolt (A) and two dowel bolts (B).

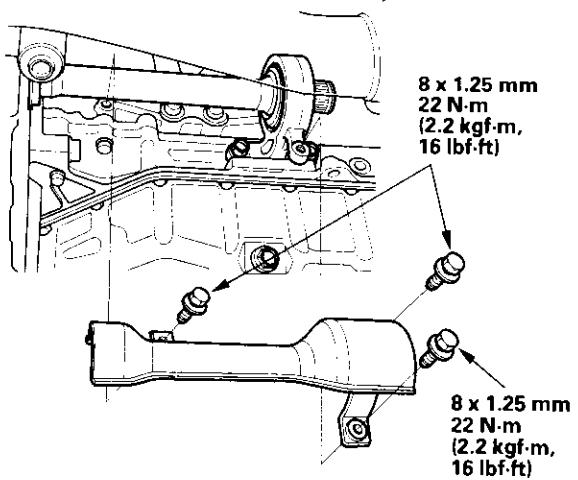


(cont'd)

# Driveline/Axle

## Intermediate Shaft Installation (cont'd)

3. Install the heat cover, and tighten the three bolts.



4. Install the right driveshaft (see page 16-16).