

Figure 2—Axle Vent Hose Routing

2. Axle vent tube and clips. Refer to figure 2.
3. Front stabilizer bar.
4. Shock absorbers to the axle brackets.
5. Brake caliper (40).
6. Connecting rod to the steering arm.
7. Propeller shaft.
  - Lower the vehicle.

## AXLE JOINT COMPONENT REPLACEMENT

### ↔ Remove or Disconnect

- Raise the vehicle.
1. Axle shaft. Refer to "Axle Shaft Replacement" earlier in this section.
    - Support the shaft yoke in a bench vise or on a short piece of pipe.
  2. Trunnion
    - Using a brass drift and soft hammer drive on the end of a trunnion bearing enough to drive the opposite bearing from the yoke.
    - Support the other yoke and drive the trunnion bearing out in the same manner.

### 🧼 Clean

- The bearings and yokes.

### 👁️ Inspect

- The bearings and yokes. Replace parts as necessary.

### ↔ Install or Connect

- Lubricate the new bearings with a high melting point type wheel bearing grease.
1. Bearing in a yoke ear.
  2. Trunnion in the bearing.
  3. Another bearing in the opposite yoke ear with the trunnion aligned.
  4. Bearing in each ear of the companion yoke.
    - Press the bearings in beyond the lock ring grooves.
  5. Lock ring at each bearing.
    - Tap the yoke lightly to seat the bearings against the lock rings.

## LOCKING HUB COMPONENT REPLACEMENT

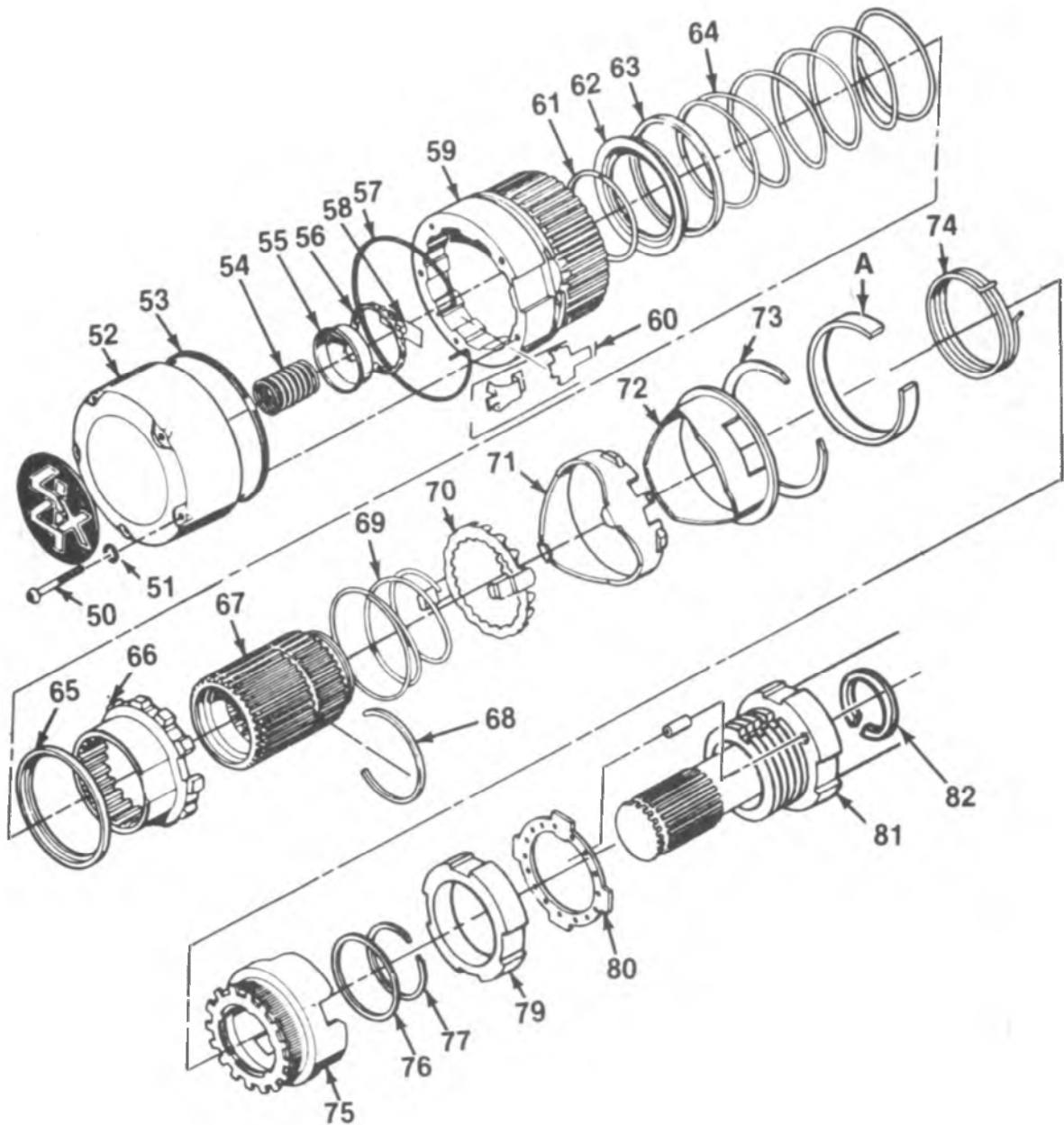
### AUTOMATIC HUB COMPONENT REPLACEMENT

#### ↔ Remove or Disconnect (Figure 3)

1. Screws (50) and O-ring seals (52).
2. Cover (52).
3. Seal (53).
4. Keeper (60).
5. Spring (54).
6. Inner race (55).
7. Bearing (56).
8. Retainer (58).
9. Ring (57) using needle nose plier.
  - Pull the remaining components from the wheel.
10. Retaining ring (77) from the sleeve (67) groove.
  - Rotate the drag sleeve (75) until it drops into engagement with the gear (59).
  - Lift and cock the drag sleeve (75) to unlock the tangs of the brake band (74) from the "window" of the inner cage (72), then move the drag sleeve (75) and brake assembly away.

#### ! Important

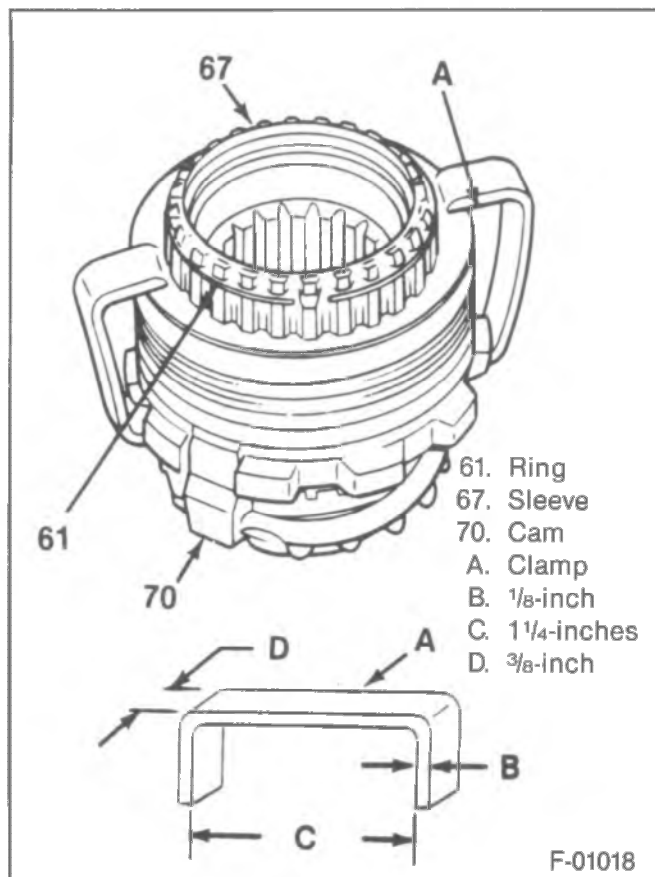
- NEVER REMOVE THE BRAKE BAND (74) FROM THE DRAG SLEEVE (75). The spring tension of the brake band (74) can be changed if the coils are over expanded and the operation of the hub could be affected.
11. Ring (73) from the groove in the clutch gear (59).
  12. Inner cage (72).
    - While removing the inner cage (72) use a small screw driver to pry the plastic outer cage (71) away.
  13. Outer cage (71).
    - Pry the plastic outer cage (71) tabs free from the groove in the clutch gear (59) and move the outer cage (71) away.
  14. Sleeve (67) from the clutch gear (59).
    - Compress the return spring (64) and hold the assembly in a compressed condition by using the clamps shown in figure 4.
    - Position the assembly with the clamps in place in a vice and hold both ends of the sleeve (67).



- |                 |                    |                    |
|-----------------|--------------------|--------------------|
| 50. Screw       | 62. Retainer Plate | 74. Brake Band     |
| 51. O-Ring Seal | 63. Retainer       | 75. Drag Sleeve    |
| 52. Cover       | 64. Return Spring  | 76. Spacer         |
| 53. Seal        | 65. Retainer       | 77. Retaining Ring |
| 54. Spring      | 66. Gear           | 79. Adjusting Nut  |
| 55. Inner Race  | 67. Sleeve         | 80. Lock Ring      |
| 56. Bearing     | 68. Stop Ring      | 81. Nut With Pin   |
| 57. Ring        | 69. Spring         | 82. Ring           |
| 58. Retainer    | 70. Cam            | A. Shield          |
| 59. Clutch Gear | 71. Outer Cage     |                    |
| 60. Keeper      | 72. Inner Cage     |                    |
| 61. Ring        | 73. Ring           |                    |

F-03523

Figure 3—Automatic Hub Components, V10/15, V20/25 and V30/35



**Figure 4—Compressing the Return Spring**

15. Ring (61).
  - While holding the sleeve (67) in the vise, remove the clamps holding the return spring (64) and then open the vise and release the return spring (64).
16. Retainer plate (62).
17. Retainer (63).
18. Stop ring (68).
  - Align the ends of the stop ring (68) with the legs of the cam (70) to allow removal.
19. Spring (69).
20. Cam (70) from the gear (66).

### Inspect

- All parts and replace as necessary.

### Install or Connect (Figure 3)

1. Cam (70) over the flats of the gear (66).
2. Spring (69).
  - Compress the spring (69) and slide the large diameter end against the gear (66).
3. Gear (66) over the splines of the sleeve (67).
  - Cam (70) should locate at the end of the sleeve (67) having no splines.

### Important

- The gear (66) and spring (69) should slide freely over the splines of the sleeve (67).
4. Stop ring (68) to the groove of the sleeve (67).
  5. Retainers (63 and 65) to each end of the spring (64).
    - Retainer (65) to the shoulder of the gear (66).
  6. Retainer plate (62) to the retainer (63).

- Compress the return spring (64) and hold the assembly together with clamps (figure 4).
7. Ring (61) in the groove of the sleeve (67).
    - Place the assembly (steps 1 through 7) into the clutch gear (59) and support the clutch gear (59) above a flat surface allowing the assembly to drop down so that the tangs of the brake band (74) may be assembled later.
  8. Outer cage (71) into the clutch gear (59).
    - The ramps of the outer cage (71) must face the cam (70).
    - Locate the outside tabs of the outer cage (71) into the wide grooves of the clutch gear (59).
  9. Inner cage (72) into the outer cage (71).
    - Align the tab of the outer cage (71) with the "window" of the inner cage (72).
  10. Ring (73).
    - Into the groove of the clutch gear (59) above the outer cage (71).

### Important

- Service the brake band (74) and drag sleeve (75) as an assembly and be sure the original lubricant has not been removed or contaminated. Lubricant number 1052750 or its equivalent **must be used** in this assembly.

11. Brake band (74) tangs.
  - Place the tangs of the brake band (74) on each side of the lug of the outer cage (71) located in the "window" of the steel inner cage (72). Cock these parts to engage the tangs in this position.
12. Spacer (76) and retaining ring (77).
  - To the sleeve (67) above the drag sleeve (75).
13. Hub assembly to the vehicle.
14. Ring (57) to the clutch gear (59) unsplined end.
  - Locate the tangs of the ring (57) pointing away from the vehicle.
15. Keeper (60).
  - Hold the tangs of the ring (57) together and attach the keeper (60). For K10 and K20 assemble the O-ring seal (53) in the clutch gear (59) groove and over the keeper (60).
16. Bearing (56) over the inner race (55).
  - Lubricate the bearing (56) with light wheel bearing grease.
  - Steel balls should be visible when bearing (56) is properly installed.
17. Retainer (58) into the outer race (55) hole.
  - Bearing (56) inner race (55) and retainer (58) into the sleeve (67).
18. Spring (54) into the cover (52) bore.
  - Align cover (52) screw holes with the screw thread holes in the clutch gear (59).
19. O-ring seals (51) and screws (50) in the cover (52).
  - The hub sleeve (67) and attached parts should turn freely after assembly.

### Tighten

- Screws (50) to 5.1 N·m (45 in. lbs.).

### Important

- The five cover screws (50) must be loosened (three or four turns) and then pushed inward to

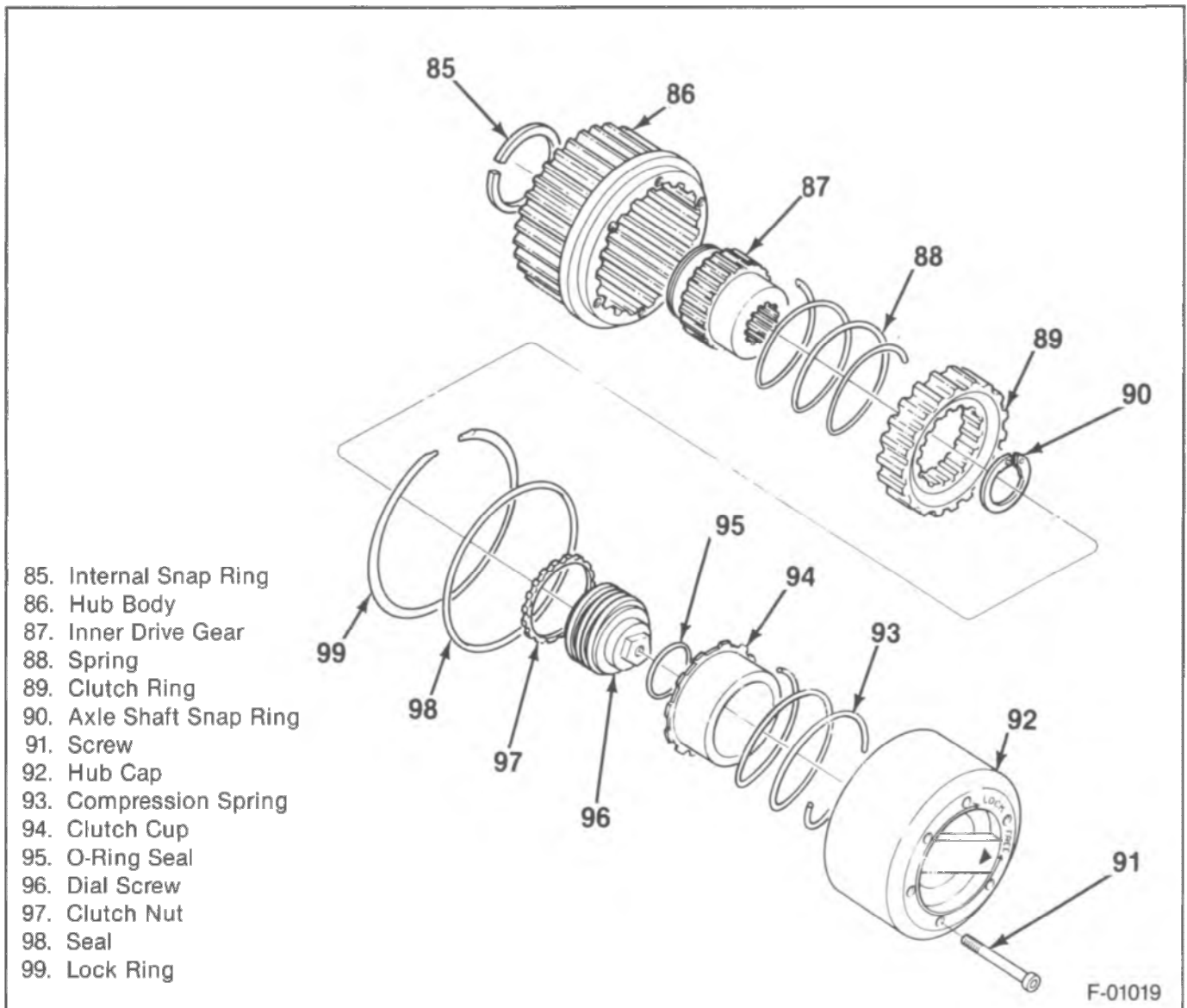


Figure 5—Manual Hub Components, V30/35

allow the retaining ring (57) to expand when assembling the automatic locking hub to the vehicle.

### AUTOMATIC HUB TO THE WHEEL ADJUSTMENT

A lock ring (80) is supplied with each new automatic hub assembly. Assemble this lock ring (80) between the nut with pin (81) and the adjusting nut (79) as follows:

Use J-6893 to torque the nut with pin (81) to 68 N·m (50 ft. lbs.) to seat the wheel bearings; then back off the nut with pin (81) and torque to 47 N·m (35 ft. lbs.) while rotating the hub (figure 3).

Then back the nut with pin (81) off a maximum of 3/8 turn. Assemble the lock ring (80) over the axle shaft against the nut with pin (81) so that the inner tang enters the axle shaft keyway. One of the holes in the lock ring (80) must engage the pin on nut (81). Thread the adjusting nut (79) onto the axle shaft and tighten to 247 N·m (183 ft. lbs.).

Align the cut-outs on the drag sleeve (75) with the tabs on the lock ring (80) as the splines of the clutch gear (59) mesh with the splines of the wheel hub. Loosen the five cover screws (50) three or four turns and push in on the screws (50) to allow the ring (57) to expand into the groove in the wheel hub. Torque the screws (50) to 5.1 N·m (45 inch lbs.).

### MANUAL LOCKING HUB REPLACEMENT

#### ↔ Remove or Disconnect (Figure 5)

1. Screws (91).
2. Outer hub locking assembly (92, 93, 94, 95, 96, 97, 98, and 99).
3. Snap ring (90) from the axle shaft end.
4. Internal snap ring (85) from hub.
5. Body assembly (86, 87, 88 and 89).

#### 🔍 Inspect

- All parts and replace as necessary.